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ORIGINAL ARTICLES

PREVENTORIUM PROBLEMS*

BY JOHN B. HAWES, 2ND, M.D.

Dr. Haven Emerson, commenting on the health and tuberculosis situation in Boston, was of the opinion that the one great reason why the results were not more satisfactory was because of the lack of public interest and support, particularly on the part of the medical profession. By facts and figures he proved his case conclusively. He used plain and unvarnished English when he stated, "the complacency of Boston is shocking!"

I have purposely chosen as my topic a subject which I feel is not of great interest to many physicians, but which I hope to make so if possible. It is far easier and far pleasanter to sit in one's office and devote one's time to private practice, but the fact remains and must be faced that the broader problems of tuberculosis, cancer, heart disease, and child welfare of all kinds are of infinitely greater importance. I quite agree with Dr. Emerson's somewhat castigating remarks and consider them most timely. I hope as years go by to see students at our medical schools taught more of the broader aspects of medicine, of medicine from its preventive, social and particularly its human aspect, even if they have to sacrifice time now devoted to its scientific and pathological phases.

I take it for granted that the preventorium is now looked upon not only as an important adjunct but as a vital part of any anti-tuberculosis campaign. Firm in the belief that all will agree with me in this, I shall now take up certain problems and difficulties that have confronted us—the Boston Tuberculosis Association—in regard to our own Prendergast Preventorium.

WHAT IS THE OBJECT OF THE PREVENTORIUM?

This seems simple enough to answer. Of course its object is to prevent the development of latent tuberculosis in children into active tuberculosis later on. But is there not another and equally important object? I believe there is—namely, to demonstrate, by methods used and results obtained, so clearly to the proper authorities, city, county or state, as the case may be, the value of such an institution that they will become convinced and will eventually take it over and make it part of their own machinery to combat consumption.

Theoretically, I do not believe that any voluntary tuberculosis or health association should maintain or manage a preventorium or any other institution, unless it has this last object in view—to demonstrate its value to the public and to turn it over to the public via the proper authorities when conditions warrant it. This is our situation here in Boston. We were left a tract of land and felt that the best way to use it was for preventorium purposes. We do not expect to keep it indefinitely. About 40 per cent of our annual budget at present goes toward its support—far too high a proportion. Eventually, we hope to turn it over to the city authorities when the proper time for that arrives. New York City pays $1.25 per day for children admitted through its official clinics to the Farmingdale Preventorium, a large institution for over two hundred children located in New Jersey. This institution, like ours, is privately controlled and managed by a voluntary health organization with no connection officially with the municipal tuberculosis work. I see no reason why we in Boston should not have such a plan until the time comes when we may with full assurance turn over our preventorium to the city tuberculosis department. The chief function of our Prendergast Preventorium at present, therefore, is that of a demonstration. We are proving every day how much better it is to prevent children from becoming sick than to wait until they show signs of disease before doing anything about it. The Preventorium is a living and vivid object lesson to the medical and nursing professions, to social and charitable organizations of all kinds, and to the general public. It is far from perfect, but each year sees some improvement. We hope before long to have it one of the best of its kind in the country and then we hope to turn it over to city authorities as a well-running and high-grade institution.

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*Read at a meeting of the Trudeau Society of Boston, January 11, 1927.

LOCATION OF A PREVENTORIUM

Should such an institution as this be in the city or in the country?

I should say both, if possible, and that, strangely enough, is true in our case. Our land is within the city limits, near to car lines and easily reached by auto and yet in a densely wooded area which has every appearance of being far from civilization. I believe accessibility to be essential. No matter how beautiful and healthful a given site may be, a preventorium will not function properly if at too great a distance from parents and friends.

All sorts of things may happen where a large number of children are running around, no matter how close the supervision. A child falls out of a tree and breaks an arm; a case of scarlet fever develops, or an otitis media. Nearness to the City Hospital, the South Department and to our consulting staff of specialists make such incidents comparatively easy to handle. Money is saved by our proximity to supplies of all kinds. Close supervision by officials from our main office keeps employees up to higher efficiency than would be the case otherwise. Assistance in the way of school and playground teachers from the school department, who come and go every day, is possible because we are within the city limits. Otherwise, we would have to pay and board these teachers. Ease of access to visitors and organizations of all kinds results in many visits and a consequent wide-spread and increasing interest in our work. Finally, although we have as yet done nothing along this line, we hope to develop our preventorium into a teaching center where medical students, nurses, social workers and even physicians can study the tuberculous problem, and especially heliotherapy as it applies to children, all of which would be extremely difficult were our institution at a distance.

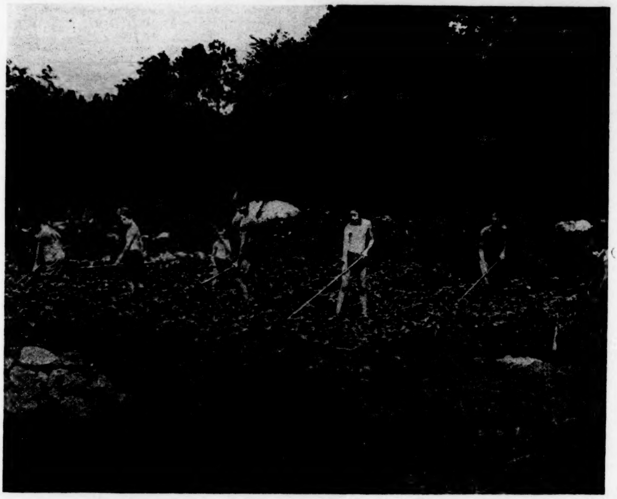
THE PROBLEM OF BUILDING AND MAINTAINING A PREVENTORIUM

As far as possible the expense of establishing and maintaining a preventorium should come out of special funds raised and given for this purpose rather than from money obtained from Christmas seals. In most instances this is impossible, at least in the beginning. Although difficult, it is not impossible to start a preventorium with only a small amount of funds available. In our own case we had land and buildings, the latter requiring considerable repair, already available but we had very little cash for maintenance or extensive improvements. There was, and still is, no sewer connection so that the old-fashioned and unsatisfactory cesspool had to be utilized. During the summer months when there were one hundred extra children, ordinary out-houses were necessary. Tents, likewise, were all we had for sleeping and dining quarters. We still use some tents, but are replacing them as soon as possible with light portable houses. There was neither water nor gas connection at first. It is possible, therefore, as shown by our own experience to get along fairly satisfactorily without many modern conveniences. As I said above, approximately 40 per cent of our total budget goes to support our Preventorium, leaving a comparatively small amount for general educational purposes. Gradually, we hope to change this. Probably because of rather wide publicity concerning our work, we are receiving more and more special bequests and donations for our Preventorium, each of which of course releases just so much more for other purposes. A large legacy of $100,000, a year ago, and smaller amounts for a swimming pool, an X-ray plant, and other unrestricted gifts for general support encourage us immensely. I counted nearly thirty organizations of all kinds, each of which was doing or had done something for this institution and this number is increasing. Hardly a week goes by but that gatherings of nurses, social workers, women's clubs, etc., come to visit and see what we are doing and doubtless to tell of it to others. Only rarely, however, do physicians come to see what we are accomplishing. Newspaper publicity helps immensely. I know of no expenditure that is more worth while than a small sum to get part-time publicity service from someone well equipped for such work.

At a recent visit to a nearby institution, I noted with interest and approval a large placard entitled "Things we need," and below a list of articles such as beds, wheel chairs, etc., with the cost of each. At the Royal Victoria Preventorium at Toronto, Canada, the visitor notes a small sign over nearly every bed to the effect that this bed is maintained by such and such a club or other organizations in the city. Large bequests are scarce, but there are in every large city at least dozens of charitable organizations of all kinds that raise annually a small sum which could support a bed or fill some special need at a preventorium. We have what is known as an "Auxiliary" at Prendergast, a group of members of our Association who have a special interest in our work with children. This Auxiliary meets at regular intervals, discusses the various preventorium problems and how to solve them and, by means of entertainments, sales, etc., raises a considerable sum to help us and, most important of all, arouses interest and increases public knowledge in what we are doing.

WHAT RELATION DOES THE SUMMER CAMP BEAR TO THE PREVENTORIUM?

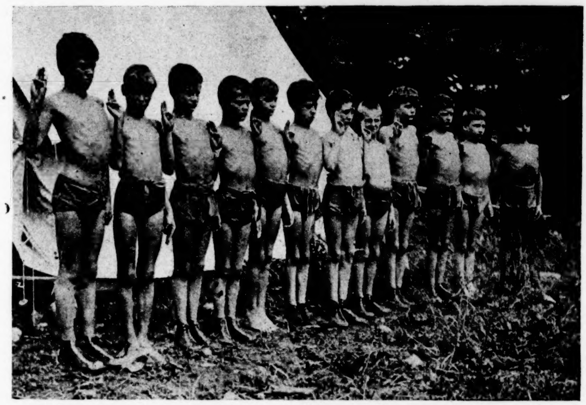
At Prendergast at present we have only twenty permanent beds although within the year we expect to increase the number to forty. Ever since this institution has been open, however, we have maintained a summer camp during July and August for one hundred or more additional children. This, of course, involves a very considerable extra outlay and the question at once arises as to whether or not it is worth while. I think it is. Doubtless to take one hundred boys and girls out of the city slums for such a short period as two months may not do much permanent physical good, but at all events it is of some benefit, while in addition, it increases the sphere of influence of the preventorium and spreads the gospel of fresh air and right living among people whom we could reach in no other way. On Sundays and other visiting days during the summer the grounds are crowded with parents and friends and it is inconceivable to think that they are not asking questions, commenting on how well the children look, and profiting thereby. The summer camp is the natural precursor of the preventorium and such a combination as ours, where for two months the two are working together, is bound to be instructive and stimulating to other societies and organizations who are at present only in the summer camp stage. Therefore, I am strongly of the opinion that a summer camp, despite the additional expense involved, is a natural and proper adjunct to the preventorium.



WHAT SHOULD GUIDE US IN THE ADMISSION AND DISCHARGE OF CHILDREN?

The great majority of our children are referred to us through the Out-Patient Department of the Boston Sanatorium. A few come from other clinics, dispensaries and social service department, and, rarely, from private physicians. At our summer camp we admit a considerable number with tuberculosis of the eye. As far as the Preventorium is concerned, children should be selected most carefully and should come up to certain strict requirements. Naturally, each should be a contact case, one that has been exposed to infection, while in addition there should be a positive tuberculin reaction, although I do not now consider this so important as I did formerly. Necessary housecleaning, such as proper dentistry and removal of tonsils and adenoids, should be attended to beforehand. Chronic bed-wetters should not be admitted unless there is a laundry, in which case, the children can be trained at the Preventorium. Those with other bad habits, if known of in advance, should not be admitted. So far, our selection of children has been on a physical basis only. We are now considering the question as to whether or not we should not put candidates for admission through some sort of intelligence test as well. Where beds are so few and applicants so many, is it not fair to select those children whom we believe will profit most mentally as well as physically? I believe it is, but likewise I realize how difficult it is to make such a selection. Common sense and a shrewd sizing up of all the factors involved, considering the child, his parents, and his environment, are necessary to make a proper decision in each case, both as to admission and discharge. It is easier to decide as to the discharge of patients. Chronic bed-wetters, if possible, should be cured by training, but otherwise they and other chronic incompatibles should be discharged after having been given a fair trial. Certain cases of homesickness are apparently incurable and should not be kept. As a matter of fact, most of these do not become acute cases, if there is the right personnel at the Preventorium.

The admission of children to the summer camp is on a far more liberal basis. We do not always draw the line at contact cases and a positive skin test, but accept the underweights and badly nourished children and certain others with tuberculosis elsewhere such as eye tuberculosis of whom we have a large group under constant supervision. While the majority of our admissions both to the Preventorium and to the summer camp come from the Out-Patient Department of the Boston Sanatorium, not a few are referred to us from the clinics and dispensaries but only rarely from private physicians. The weakest link in our chain, as I see it, is the comparative lack of interest in our work on the part of the medical profession. This is shown not only by the small number of children referred to our care by physicians, but also by the few doctors and medical societies that visit us or even know what we are doing. But this, I imagine, is not confined to Boston. Gradually, we hope that there will be a change for the better in this state of affairs.



MEDICAL SUPERVISION

I need not discuss here the importance of having as nurse or superintendent of any preventorium a woman who combines executive ability with kindliness and a real fondness for children. I refer here to the problem of getting expert medical advice. Too often this is done in a hap-hazard fashion and left to some willing but already over-worked general practitioner who makes a visit only when called upon to do so. Such an arrangement is neither right nor proper and can only lead to unsatisfactory results. Doctors are far too often called upon for unpaid services, while most general practitioners are quite unfamiliar with the special problems involved. Our own system, developed after some years of experiment, is as follows: There is a special preventorium committee appointed each year, which has general management of the preventorium and is responsible to the Executive Committee of the Association. Under this is a Medical Advisory Committee which controls the general medical policy of the institution. A high-grade pediatrician, in our case Dr. Eli Friedman, is the visiting physician at a salary of $500 a year, while in addition there is a board of consultants covering all the necessary specialties. These are paid a nominal sum of $10 for each visit. Dr. Friedman visits the camp at least once a week and usually oftener. He is responsible for the general medical care of the children and looks after colds and minor infections and has authority to discharge patients or to send them elsewhere when necessary. Matters of general policy such as diet, rest, exercise, teaching, etc., rest with the medical advisory committee. While certainly not as good as it should be, particularly in regard to routine periodical examinations, I feel that our medical work is at least fair. Up to date we have been distinctly lax concerning one important point, however. I firmly believe that one object of any preventorium should be to conduct careful scientific studies of the general problem of tuberculosis in childhood in order, if possible, to increase the sum total of our knowledge of this subject, which at present is far from complete. A group of children such as we have presents a wonderful opportunity for this purpose, which I frankly admit we are neglecting.

MINOR PROBLEMS

Numerous other questions have arisen of a comparatively minor nature. For instance, should the *diet* for the children be estimated and apportioned in terms of calories? We tried it for a while but gave it up as unnecessary. Can *heliotherapy* be carried out in detail? Theoretically, this should be done all the year round, but practically, we have been able to do this only during the summer months. Last summer for the first time, all of our children, except some of the older girls, were clothed only in shoes and bloomers, the rest of the body being bare. With our new building we hope to carry on sunlight treatment all the year round. *Vocational training* of some sort, or at least occupational therapy, should be regarded as an essential feature in any well-run preventorium, but as yet we are doing almost nothing in this direction, simply on account of lack of funds. At present while our girls are gaining health and vigor, and during the school season are attending classes regularly, I feel that we are not giving them the training in home hygiene, domestic science, etc., that we should, and that we hope to do in the future. The question of *religious training* is often a puzzling one. As a general rule the church should be brought to the children rather than the reverse. This is by far the best arrangement whenever possible. At the present time at Prendergast, the Catholic children go to church outside, while for the Protestant and Jewish children, services are arranged for at the institution. The problem of providing school teachers and playground instructors is not difficult as the city will, and indeed must, provide for this. A proper outdoor school room is, of course, an essential feature, although I do not feel so strongly in favor of it as I did a few years ago. Another problem that we have now solved, at least apparently so, was in regard to the management and care of the comparatively large group of boys and girls taken in during July and August. One year we tried the experiment of two fourth year medical students to supervise the children and the result was a lamentable failure. The young men in question knew too little medicine to be of any value and were distinctly shy of hard work. Last year for this purpose we employed girls who had had no medical training at all, but who were fond of children and not afraid of work. The results were excellent.

Girls in Home Hygiene Class at Prendergast Preventorium, Mattapan.

The above describes some of the problems we have encountered and how we have solved or tried to solve them. The Preventorium has come to stay. All over the country summer camps are springing up and gradually becoming all the year round institutions, real preventoria. I hope that our experiences will be of value to others so that the mistakes we have made will not be repeated. Preserving and improving the health of children is the biggest task confronting the medical profession today.

I hope eventually that we will have a 100-bed institution for children of the preventorium type. Certainly such a number is none too large for a city the size of Boston. Toronto, Canada, although considerably smaller than Boston, already has a 100-bed institution and keeps it filled with a waiting list. Some day our City will realize that it will be cheaper and more efficient to keep such children from getting consumption than to wait until it develops into active disease in adult life before beginning treatment.

REPORT OF THE RESULTS OF TREATMENT WITH SALT-FREE DIET, IN THIRTY-FIVE CASES OF ARTERIAL HYPERTENSION*

BY E. R. BLAISDELL, M.D.

CASE 1. Wm. B. Age 43. Truant officer. Was first seen in the office March 24, 1926. His blood pressure was 180/115. The urine contained a large amount of albumin, no sugar, hyaline and granular casts and a few red blood cells. The blood examination showed a negative Wasserman, urea nitrogen of .02%, creatinin of .002%, and a blood sugar of .1%. The patient complained of headache, dizziness, digestive disturbances, frequent urination at night, and loss of strength. He had been told two years before that he had Bright's disease. Since that time he had been on a low protein and salt-poor diet. A strictly salt-free diet, restricting protein to 60 grams daily, was prescribed by the writer. On April 20th, the blood pressure was 120/80. The patient felt much better and was able to do his work without being fatigued. He found voiding at night unnecessary. Up to Oct. 30, 1926, the blood pressure was never higher than 130/95 and the 24 hour urine chloride remained below 1 gram. On Nov. 1, 1926, the patient broke diet, eating a large amount of salt and protein. 24 hours later, he developed a thrombosis of the central vein of the left retina, resulting in blindness of the left eye. The blood pressure was at this time 160/110. The patient returned to the salt-free diet. Four days later the blood pressure was 120/80. The eye cleared unusually promptly, according to the ophthalmologist to whom the case was referred, and who did not feel safe in saying that the break of diet was responsible for the thrombosis. One month later, the patient's blood pressure was 120/80 and he had about 70% of the original sight in the damaged eye. His condition has remained the same since that time. He is back at his old job and feeling well.

CASE 2. Mrs. Rose B. Age 43. Housewife. Was first seen in the office August 1923 when she called on account of an attack of rhinitis. Her blood pressure was 200/100 at that time. A low protein, salt-poor diet was prescribed. The blood pressure remained the same after a month's treatment. She was not seen again until April 28, 1926, at which time she complained of frequent pounding headaches, dizziness, numbness in extremities and frequent attacks of dimness of vision. Her blood pressure was 260/120. The urine contained a trace of albumin. The blood chemistry was normal. She was put on a salt-free diet. Her blood pressure fell rather slowly and on May 18, 1926, was 200/110. Her urine chloride was below 1 gram. There was no albumin in the urine. All symptoms of high blood pressure had disappeared. The patient has reported at frequent intervals for blood pressure readings and tests. Her systolic blood pressure has ranged from 178 to 190 and her diastolic from 98 to 110. Her 24 hour urine chloride has been below 1 gram. There was one exception to this: on Oct. 4, 1926, the blood pressure was 225/120 and the urine chloride was 2.5 grams. The patient admitted breaking diet and eating large quantities of candy during the previous week. She began to experience return of her old symptoms. Strict adherence to diet since that time has been followed by complete relief from symptoms and her latest blood pressure reading was 180/100.

CASE 3. Joseph B. Age 64. Hotel Manager. Entered the Maine Eye and Ear Infirmary on Feb. 24, 1926, for a cataract operation. His blood pressure was 240/110. The urine was negative and the blood chemistry was normal. In order to prevent the possibility of a post-operative hemorrhage, the attending physician limited his diet to a glass of milk every 2 hours. In four days the blood pressure was 230/100. He was then referred to the Metabolic Department for pre-operative treatment. A salt-free diet was prescribed. In four days the pressure fell to 172/62. A week later a cataract operation was performed on the right eye. The after results were good. The patient was in the hospital one month in all. During the last two weeks that he was there, the blood pressure ranged from 140/58 to 170/70 and averaged 150/60. The 24 hour urine chloride was below 1 gram. A "follow-up" of this case was impossible, as the patient lived in a distant city.

CASE 4. Edward C. Age 74. Laborer. Entered the Maine Eye and Ear Infirmary on May 14, 1926, on account of gradual loss of vision, due to hemorrhages in both retinae. He also complained of numbness in the extremities and dizziness. His blood pressure was 218/90. The urine and blood chemistry were normal. The radial arteries were definitely sclerosed. Both retinae showed recent hemorrhages and there was total loss of sight in the left eye. He was transferred to the Metabolic Department for treatment. A salt-free diet was prescribed. One week later his blood pressure was 150/90 and it remained at this level during his stay at the hospital. He was discharged on June 8, 1926. There was considerable improvement in sight in the right eye. All dizziness had disappeared. He still complained of some numbness and cramps in his legs. His 24 hour urine chloride was below 1 gram, during the last two weeks in the hospital. He was sent home with a diet slip and with instructions how to follow it. He called at the hosital for examination two weeks later. His blood pressure was 200/100 and his 24 hour urine chloride was 4 grams. He lived alone in a shack and did his own cooking. Due to his physical disability, advanced age and ignorance, he had not followed the diet. It was thought useless to attempt further treatment and he was lost sight of.

CASE 5. George F. Age 34. Clerk. Had been sick four years. Was referred to the writer on Oct. 13, 1925. His blood pressure was 280/160. The urine contained a large amount of albumin, many casts and a few red blood cells. The blood urea nitrogen was .08%. The patient complained of nausea, dizziness,

*These briefs of cases were taken from the Metabolic Department of the Maine Eye and Ear Infirmary, from the Out-patient Department of the Maine General Hospital and from the writer's own private practice.

severe headache and dimness of vision. He was barely able to count fingers at a distance of three feet. A diet was prescribed which contained 15 grams of protein and 2 grams of salt. Sudden restriction of all salt was thought inadvisable on account of the possibility of precipitating uremia. On Oct. 14, 18 ounces of blood was taken from the vein in the left forearm. The blood pressure fell to 250/160. On Oct. 17, a rigid salt-free diet was started. On Oct. 28, the pressure was 195/150. There was some improvement in sight, the dizziness had decreased and the appetite was better. He was in much better spirits. The patient's condition remained stationary until Dec. 4, 1925, when, contrary to advice, he ate a large amount of fish and drank a large quantity of milk. On Dec. 6, 1925, he had an attack of cerebral apoplexy from which he died within two hours. The blood pressure at the time of the stroke was 300/170.

CASE 6. Essie F. Age 24. Entered the Maine Eye and Ear Infirmary April 6, 1926, on account of loss of sight, due to glaucoma in both eyes. The blood pressure was 220/125. The urine contained a heavy trace of albumin and many casts. The blood chemistry was normal. A salt-free diet was prescribed. She was discharged on April 24, 1926. The last five days previous to discharge, the blood pressure ranged from 160/100 to 174/105. A blood pressure report two months ago was 170/105.

CASE 7. Mr. E. F. Age 68. Blacksmith. Was seen in the office Feb. 15, 1926. The blood pressure was 180/100. The urine and blood findings were normal. The radial arteries were palpable. He complained of dizziness and occasional numbness in his left arm. A salt-free diet was prescribed. In five days, the blood pressure was 140/70. Since then it has ranged from 130/70 to 150/80. There has been considerable improvement in symptoms and he has remained at work.

CASE 8. Mrs. J. S. G. Age 46. Was first seen in the office April 20, 1926. She complained of dizziness and a tight feeling in her head. The blood pressure was 222/110. The urine was negative. The blood chemistry was normal. A salt-free diet was prescribed. On May 1, 1926, the blood pressure was 170/90. On May 22, 1926, it was 160/90. Frequent blood pressure readings since that time have ranged from 150/90 to 160/90. Her symptoms have entirely disappeared and she does all the housework on a farm for a large family.

CASE 9. Dr. J. G. G. Age 69. Physician. Retired neurologist. Was referred to the writer on Aug. 26, 1926. He had had a hypertension for several years and had consulted several well known internists recently, who advised him to live moderately and forget about himself. This failed to affect his symptoms or his blood pressure. His chief complaints were a feeling of tightness in his head, dizziness, and precordial distress on exertion. He had been taking three and four nitroglycerine tablets daily, for some time. His blood pressure was 215/100. His urine was negative and his blood chemistry was normal. A salt-free diet was prescribed, also .1 gram of digitalis daily. He has followed directions faithfully. On Sept. 14, 1926, his blood pressure was 178/88. Since that time it has never been above 160/90. The 24 hour urine chloride has been below .9 grams. His precordial distress has practically disappeared, as has his dizziness. Nitroglycerine is not necessary. During the past fall he was able to do considerable work in his garden. In a recent letter he said, "The fact is that since I am feeling so much better, in regard to the blood pressure, which I am assured has continued as good or better, I have become a busier man, and attended to many matters that I had not the gumption to undertake before."

CASE 10. Mrs. A. G. Age 68. During the past year has been employed in the writer's home. The blood pressure has been well over 200 for the last four years. Her physician prescribed a meat-free diet two years ago. She had been bled several times. Her chief complaints were dizziness, numbness in extremities and shortness of breath on exertion. The blood pressure was 230/100. The urine examination and blood chemistry were normal. She was put on a salt-free diet one year ago. Decided improvement was noticed at the end of two weeks. Since that time, frequent blood pressure readings have ranged from 148/60 to 180/80. The dizziness and numbness in extremities have disappeared. There is marked improvement in the shortness of breath. She is able to do more work and do it easier. The 24 hour urine chloride remains below .9 grams.

CASE 11. Mrs. M. C. Age 40. Housewife. Was referred to me on Sept. 21, 1926, by a Nose and Throat Surgeon who had been called to see her the previous week on account of a severe epistaxis. Her blood pressure at the time of the nasal hemorrhage was 290/150. On Sept. 21, 1926, her blood pressure was 285/140. The urine was negative. The blood sugar was .157% and the non-protein nitrogen was .034%. She complained of dizziness, a pounding sensation in her head and shortness of breath on exertion. A low carbohydrate, salt-free diet was prescribed. One week later the blood pressure was 218/110. The patient felt much better. Since that time, her blood pressure has averaged 190/105 and her blood sugar is .11%. It has been impossible to get accurate 24 hour urine chloride determinations, due to the carelessness of the patient.

CASE 12. Mrs. W. B. Age 64. Housewife. Entered the Maine Eye and Ear Infirmary on Nov. 3, 1926. for a cataract operation on her left eye. Her blood pressure was 220/110. The blood chemistry was normal and the urinary analysis was negative. She was transferred to the Metabolic Department for preoperative treatment. A salt-free diet was prescribed. On Nov. 8, the blood pressure had dropped to 175/98. The 24 hour urine chloride was .9 grams. The cataract operation was performed on this date. The after results were good. She was discharged on Nov. 25, 1926, with a blood pressure of 170/90 and a 24 hour urine chloride of .6 grams.

CASE 13. Mrs. Mary H. Age 66. Was first seen in her home July 29, 1926. Her chief complaints were dizziness, and paralysis of the left side of her body. Her blood pressure was 220/110. The urine and blood chemistry were normal. Two months before this time, she had a cerebral apoplexy. When first seen, she dragged her left foot in walking, there was considerable weakness in the left arm and some difficulty in swallowing. A salt-free diet was prescribed. Her blood pressure gradually fell and on Aug. 31st it was 150/80. Since then it has ranged from 130/80 to 150/80. Her 24 hour urine chloride has been below .9 grams. Dizziness has disappeared but she still remains more or less of an invalid on account of the paralysis of the left side of her body.

CASE 14. Mrs. Lizzie L. Age 74. Entered the Maine Eye and Ear Infirmary on April 26, 1926, seeking relief from nearly total blindness, resulting from retinal hemorrhages. Her blood pressure was 200/110. There was distinct thickening of the radial arteries. The blood urea nitrogen was .04% and the blood sugar was .1%. The urine contained a trace of albumin with no casts. She was transferred to the Metabolic Department for treatment. A diet containing 1 gram of sodium chloride and 20 grams of protein, with unlimited amount of fat and carbohydrate, was prescribed. On May 2d, the blood pressure was 190/105 and the blood urea nitrogen was .02%. A strictly salt-free diet, containing 60 grams of protein, was prescribed. On May 14th, the blood pressure was 140/60. On May 15th, the patient flatly refused any further dietetic treatment and a regular tray was ordered. On May 19th, the blood pressure was 200/110 and remained so until discharge on May 24, 1926. There was no noticeable change in the eye condition.

Case 15. Mr. Joseph La. Age 62. Laborer. Entered the Maine Eye and Ear Infirmary on July 24, 1926, for a cataract operation. He was first seen by the writer on Aug. 1st, 1926. His blood pressure was 220/110. The urine contained a trace of albumin and no casts. The blood chemistry was normal. A salt-free diet was prescribed. The blood pressure gradually fell. After one week of treatment, it ranged from 170/90 to 150/80. On Aug. 17th, he was operated on. The after results were good. He was discharged on Aug. 29, 1926 with a blood pressure of 170/90 and a 24 hour urine chloride which was below .9 grams.

Case 16. Mrs. Clara H. Age 32. Housewife. Was referred to the Out-patient Dept. of the Maine General Hospital on Nov. 6, 1926. She had recently been in the hospital for treatment of uremia. While there she had been on a salt-poor, low protein diet. This had decreased the blood nitrogen but had failed to decrease the blood pressure, even with complete bed rest. When first seen in the Out-patient Department, her blood pressure was 220/128, the blood urea nitrogen was .02% and the urine contained a heavy trace of albumin. A strictly salt-free diet, containing 40 grams of protein, was prescribed. On Nov. 13th, the blood pressure was 190/110 and on Nov. 27th, it was 162/100, with only a slight trace of albumin in the urine. Since that time, the blood pressure has ranged from 156/95 to 178/100 and there has been no albumin in the urine.

Case 17. Mrs. Jos. La. Age 70. Housewife. Was referred to the writer on Oct. 12, 1925, by an opthamologist who had found decreased vision, due to sclerosis and hemorrhages of the retinal vessels. Her blood pressure was 218/110. The blood and urine examinations were negative. There was considerable thickening of the radial arteries. Besides partial loss of sight, the patient complained of a roaring in her head and dizziness. A salt-free diet was prescribed. The patient lived in another state and only occasional examinations were possible. The blood pressure was very stubborn, as will be seen by the following readings: Nov. 19, 1925, 200/110: Feb. 23, 1926, 180/105: June 26, 1926, 183/105: Aug. 27, 1926, 178/105: Oct. 15, 1926, 178/100: Dec. 24, 1926, 178/105. The patient was very faithful to her diet, as frequent 24 hour urine chloride examinations were always below 1 gram. The symptoms improved very slowly. On Aug. 27, 1926, the patient said that she had been free from all dizziness and roaring in her head for the last month and since that time, there has been no recurrence. There has been slight improvement in sight. During the last six months, she has done all of the work in her home for four in the family.

Case 18. Mrs. Ida L. Age 48. Housewife. Sister of Case 16. Her blood pressure had been above 200 for the last two years. She had been on a meat-free diet during that time. When first seen in the Out-Patient Dept. of the Maine General Hospital, on Nov. 9, 1926, her blood pressure was 220/100 and the urine was negative. A salt-free diet was prescribed and the protein was restricted to 80 grams daily. The blood pressure readings were as follows: Nov. 20, 1926, 150/90: Nov. 27, 162/95: Dec. 4, 180/100: (she admitted a break of diet during the preceding week) Dec. 11, 140/60. Since that time the blood pressure has ranged from 140/60 to 168/85.

Case 19. Mrs. Julia L. Age 75. Was first seen in the office June 8, 1925. She complained of dizziness and shortness of breath on exertion. The blood pressure was 210/110 and the urine was negative. A salt-free diet was prescribed. On Aug. 4, 1925, the blood pressure was 160/80. She has been seen at frequent intervals since that time and at no time has the blood pressure been above the latter figure. The patient has been very faithful to her diet. Her symptoms have practically disappeared and she is able to do the housework for a daughter, while the latter works all day in a store.

Case 20. Mrs. Alice McL. Age 52. Factory hand. Was first seen in her home on Sept. 9, 1926, when she was suffering from an attack of acute cardiac decompensation. Her blood pressure was 100/85, pulse 160, sputum frothy, there were moist râles throughout the chest and extreme dyspnoea. She was given 1/4 gr. morphia hypodermically and .2 grams of digitalis every three hours until digitalized. On Sept. 13, 1926, the blood pressure was 210/105, all chest symptoms had disappeared and the patient felt much better. A salt-free diet was prescribed. In 10 days the pressure fell to 160/80 and has not gone above this figure since that time. The patient adheres to a strict diet and takes .1 gram of digitalis daily. She is able to walk about on the street and expects to go to work within a short time.

Case 21. J. G. M. Age 62. Farmer. Was referred to the writer on April 14, 1926. His blood pressure was 200/100 and the urine was negative. His systolic blood pressure had ranged from 180 to 200 for the last three years. He complained of no symptoms that could be attributed to the elevated blood pressure. A salt-free diet was prescribed, in order to lessen the possibility of some future vascular accident. On April 18, 1926, the blood pressure was 168/90 and on June 4, 1926, it was 163/90. He did not return for future blood pressure readings.

Case 22. Mrs. June Mc. Age 60. Housewife. The writer was called to see her on March 26, 1926, on account of a fainting spell, which lasted 10 minutes and was followed by numbness in the left side of her body. This numbness disappeared after 24 hours and was not followed by any muscular weakness. When first seen, her blood pressure was 260/140. A salt-free diet was prescribed. In 10 days the blood pressure fell to 160/90 and since then it has not been higher than 170/100. She has had no recurrence of "cerebral spasm."

Case 23. Mrs. Mary M. Age 73. Entered the Maine Eye and Ear Infirmary on July 31, 1926, for a cataract operation. Her blood pressure was 225/100. The blood chemistry was normal. The urine contained a trace of albumin with no casts. She was transferred to the Metabolic Service for pre-operative treatment. A salt-free diet was prescribed. The blood pressure gradually fell and she was operated upon on Aug. 9, 1926, at which time the blood pressure was 160/80. The after results were good. She was discharged Aug. 22, 1926, with a blood pressure of 150/85. During the last two weeks in the hospital, the urine chloride was below .5 grams. She lived in a distant city and a "follow-up" of the case was impossible.

Case 24. Mrs. Hattie S. Age 64. Practical Nurse. Was first seen in the office Oct. 22, 1926. Her chief complaints were headache and numbness in extremities. The blood pressure was 230/115 and the urine was negative. A salt-free diet was prescribed. The blood pressure gradually fell and on Nov. 17, 1926, it was 178/70. Her 24 hour urine chloride has been below .9 grams. Her physician, in her town, informs me that her blood pressure has ranged from 165/70 to 175/70 since Nov. 17, 1926. Her headache and numbness have disappeared.

CASE 25. Mr. W. M. Age 69. Novelty Broker. Has been an invalid for three years or more, on account of frequent attacks of angina pectoris. Was first seen on Oct. 7, 1925, in an attack of acute myocardial decompensation. The blood pressure was 120/100. With the aid of morphia, digitalis and complete bed rest, his condition gradually became better. At the end of a week, his blood pressure was 225/115. His urine was always negative. A salt-free diet was prescribed, after the acute symptoms had abated and he was given .1 gram of digitalis daily. The blood pressure fell slowly and 17 days later, it was 160/90. The patient felt much better and was let out of bed. Since then, the blood pressure has ranged from 158/90 to 178/80. He still remains more or less of an invalid, due to coronary disease and arteriosclerosis. He has occasional attacks of precordial distress, but less severe than formerly. An occasional nitroglycerine tablet is necessary. He is able to be up about the house a greater part of the day and, when the weather is suitable, takes short walks. He adheres to a strictly salt-free diet. His 24 hour urine chloride examinations have been satisfactory.

CASE 26. Mrs. Mary R. Age 53. Housewife. Was first seen in the office on April 28, 1926. Had been told a short time before that she had Bright's disease. Her chief complaints were a tight feeling in her head and occasional dizziness. The blood pressure was 180/100, the urine was negative and the blood chemistry was normal. A salt-free diet was prescribed. On May 15th, the blood pressure was 150/90 and at frequent intervals since then, it has ranged from 140/80 to 150/90. Her symptoms have disappeared.

CASE 27. Mrs. Helen R. Age 60. Housewife. Was first seen in the office Aug. 1, 1926. She complained of dizziness and numbness in the extremities. Her blood pressure was 180/100. The urine was negative and the blood chemistry was normal. The radial arteries were palpable. A salt-free diet was prescribed. On Aug. 12th, the blood pressure was 154/80. Frequent readings since that time have never been above 160/85 and for the most part, 145/80. Her dizziness has disappeared but there is still some numbness in her extremities.

CASE 28. George S. Age 59. Entered the Maine Eye and Ear Infirmary on Jan. 13, 1926, for treatment for total blindness. Both retinae were detached. He also complained of dizziness and ringing in his ears. The blood pressure was 220/110, the urine was negative, the spinal fluid was negative and the blood chemistry was normal. As nothing could be done for his eye condition, he was transferred to the Metabolic Dept. for treatment for his high blood pressure. A salt-free diet was prescribed. His blood pressure gradually fell and on discharge, Jan. 26, 1926, it was 145/70. There was complete relief from high blood pressure symptoms. He lived in a distant town and there was no opportunity to follow up the case.

CASE 29. Mrs. S. D. R. Age 59. Housewife. Entered the Maine Eye and Ear Infirmary on Nov. 4, 1926, for a cataract operation. The blood pressure was 210/100. The urine and blood findings were negative. She had been an invalid and confined to a chair for three years on account of chronic arthritis. She was transferred to the Metabolic Department for treatment. A salt-free diet was prescribed. Her blood pressure gradually fell and on Nov. 16, 1926, the day of the operation, it was 156/90. The after results of the operation were good. She was discharged Nov. 29, 1926, with a blood pressure of 150/80 and a 24 hour urine chloride of .6 grams. She lives in a distant city and a recent letter from her states that she is faithful to her diet and her blood pressure remains the same as at the time of her discharge from the hospital.

CASE 30. Mrs. D. B. S. Age 65. Society woman. Was referred to the writer on Feb. 28, 1926, on account of periodical attacks of severe precordial pain and dizziness. The blood pressure was 180/90, the urine was negative and the blood chemistry was normal. A salt-free diet was prescribed and in two weeks time, the blood pressure was 150/80. The pain has completely disappeared. The patient has been seen at intervals since that time and the pressure has ranged from 120/60 to 140/60. There has been no recurrence of pain or dizziness. The 24 hour urine chloride has remained below .9 grams. The patient feels well and enjoys herself, except that she misses frequent dinners with her friends.

CASE 31. Edwin W. Age 67. Wholesale Drug Clerk. Was referred for treatment on Feb. 21, 1926, on account of high blood pressure and frequent attacks of precordial pain. The latter was so severe that he was finally compelled to discontinue work. When first seen, his blood pressure was 220/0. The urine was negative, the blood urea nitrogen and the blood sugar were normal. The Wassermann was plus 3. A salt-free diet was prescribed. The blood pressure fell rapidly. Ten days later, it was 140/20 and the pain had disappeared. On March 13, 1926, the patient resumed his former occupation and has not missed a working day since that time. At this time he was referred to a syphilologist for anti-syphilitic treatment. There has been no recurrence of pain. The blood pressure has never been above 140/40 and the 24 hour urine chloride has remained below .9 grams. He feels perfectly well. He has been cautioned about over-exertion but has paid very little attention to this advice.

CASE 32. Mrs. Dorothy D. Age 73. Entered the Maine Eye and Ear Infirmary on Nov. 17, 1926, for a cataract operation. Her blood pressure was 198/80. The urine was negative and the blood chemistry was normal. She was referred to the Metabolic Service for pre-operative treatment. A salt-free diet was prescribed. The blood pressure fell rapidly and on Nov. 23d, the day of the operation, it was 132/78 and the 24 hour urine chloride was .5 grams. The after results of the operation were good. She was discharged on Dec. 3, 1926, with a blood pressure of 134/60 and a 24 hour urine chloride of .5 grams. She lived in a distant city and has not been heard from.

CASE 33. Fred I. Age 67. Blacksmith. Was referred on April 28, 1926. The blood pressure was 198/100 and the urine was negative. His chief complaints were dizziness and a sense of pressure in his head. A salt-free diet was prescribed. Two weeks later, the blood pressure was 165/85. On June 23, 1926, it was 150/80 and the urine chloride 28, 1926, the blood pressure was 180/100 and the 24 was satisfactory. When he was again seen on Sept. hour urine chloride was 2 grams, showing a break in diet. He returned to the strict diet and his blood pressure dropped to 150/90, where it has remained. His 24 hour urine chloride is below .9 grams. The sense of pressure in his head has disappeared and he only complains of dizziness when he stoops to pick up something.

CASE 34. Mrs. V. Age 50. Housewife. Entered the Maine Eye and Ear Infirmary on Aug. 4, 1926.

Her blood pressure was 200/90. The urine was negative and the blood chemistry was normal. She was transferred to the Metabolic Dept. for pre-operative treatment. A salt-free diet was prescribed. The blood pressure fell rapidly and for six days preceding the operation, on Aug. 21, it ranged from 130/60 to 150/80 and the 24 hour urine chloride was .6 grams. The after results of the operation were good. The patient was discharged two weeks later with a blood pressure of 148/80. On Oct. 19, 1926, she returned to the hospital for a check-up. The eye was in good condition. She had been doing her regular housework and her blood pressure was 145/80 with a 24 hour urine chloride of .6 grams.

Case 35. Thomas M. Age 68. Stonemason and farmer. Was first seen in the office on April 9, 1926. His chief complaints were "fainting spells" and dizziness. For the last three months, he had been unable to do any work. His blood pressure was 225/80. The urine and blood findings were negative. A salt-free diet was prescribed. On April 13th, the blood pressure was 200/80, on April 20th, 180/80, and on May 13th, 170/70. Since then, the blood pressure has never been above 170/70 and for the greater part of the time, it has been 160/80. His 24 hour urine chloride has been satisfactory. There have been no "fainting spells" since April 13, 1926, and his dizziness has disappeared. During the last four months the patient has been doing considerable work.

The salt-free diet prescribed in these cases is the same as advocated by Dr. F. M. Allen. No sodium chloride or sodium bicarbonate were used in preparing the foods and none were used at the table. The foods chosen were from those lowest in salt content. After the initial elimination of salt, an attempt was made to keep the 24 hour urine chlorides at .5 grams, although they ranged from .3 grams to .9 grams. As a precautionary measure, protein was restricted to 80 grams daily. In the presence of nitrogen retention, the protein intake was kept lower than this. If the blood nitrogen was high, a strict salt-free diet was not prescribed at once, the patient was first put on a low protein diet for a few days. This was done in order to prevent the precipitation of uremia.

SUMMARY AND CONCLUSION

1. The blood pressure was reduced to normal in only a small number of cases, but there was a marked lowering of both systolic and diastolic pressures in nearly every case.
2. There was a decided relief from symptoms in all cases.
3. Although under observation for a comparatively short length of time, the disease seemed to be arrested in every instance.
4. With few exceptions, the results obtained were independent of time. The blood pressure was reduced within the first month and remained stationary, as long as the patient remained faithful to the diet.
5. None of the patients were put to bed or told to be quiet in order to reduce the blood pressure. As a matter of fact, the majority of patients were able to carry on their work with greater ease, after being on the diet. A decrease in activity was advised in those cases with advanced heart complications, but little heed was paid to this advice.
6. The 24 hour urine chloride determinations were found indispensable in the majority of cases. This was found to be a great help in detecting a break in diet. In cases under observation over one month, an increase of 1 gram in the 24 hour urine chloride was almost invariably accompanied, within a short time, by an increase in blood pressure.
7. The results obtained in the treatment of arterial hypertension, by the Allen method, have been, in the writer's experience, far superior to those obtained by low protein, salt-poor diets, rest and drug therapy.

SOME LESSONS FROM THE TUBERCULOSIS FIGHT*

BY JAMES S. STONE, M.D., F.A.C.S.

The fight against the white plague definitely began with the studies made by Dr. Henry I. Bowditch regarding the distribution of the disease in Massachusetts. Places near the ocean and of low altitude showed the greatest amount of the disease. Dampness was considered a prime factor in favoring infection.

The persistence of this feeling regarding dampness and particularly regarding the damp night air is shown by the fact that it is less than thirty years ago that Dr. Millet wrote an article entitled "The Night Air of New England in the Treatment of Tuberculosis". He advocated wide open windows at night. Physicians were very doubtful about the wisdom of such radical treatment as this though there was no longer any doubt regarding the benefits of breathing the drier air of the day.

The discovery of the tubercle bacillus marked the beginning of real progress. There followed the discovery of tuberculin. The natural but too enthusiastic hopes that a cure had been found were followed by too strong a feeling that the agent was useless in treatment. Gradually and with increasing knowledge regarding bacteriology and the processes of immunity tuberculin has been assuming a stable position as an extremely useful agent in diagnosis and at times in treatment. The disappointment regarding its value in treatment resulted from a failure to appreciate what unaided nature was doing all the time. There followed the recognition of the fact that nature must be aided and sustained rather than stimulated in building up resistance.

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*Address given before the annual meeting of the Massachusetts Tuberculosis League, Inc., April 26, 1927, at the Hotel Statler, Boston.

It then became plain that physicians and organized health authorities must have the aid of the general public. Education on health matters and the formation of lay organizations to aid in the fight were the natural and necessary sequels. The amazing success of these coördinated and concentrated efforts is shown in the decline of this disease in our vital statistics.

The first and most direct attack was made against promiscuous spitting. It has accomplished much. But a visit to any assembly is convincing proof that the right to spit is to be classed with those which our forefathers regarded as inalienable. Today the problem of dealing with the advanced and more or less unrestrained tuberculous spitters is not satisfactorily settled.

The attack against infection through food came a little later. The general pasteurization of milk has led to a rapid decline of surgical tuberculosis of recent years. This decline did not occur until after the fight against milk borne infection was begun. Until that time surgical tuberculosis failed to show the decline which pulmonary tuberculosis showed. Today we see a rather interesting condition. A few years ago most surgical tuberculosis was of a bovine type. With the pasteurization of milk and the gradual elimination of tuberculous cows more and more surgical tuberculosis is proving to be of the human type. The incidence of surgical tuberculosis is being cut down tremendously, but the cutting down has been chiefly in that originating in milk. The surgical tuberculosis of the human type has been cut down much less rapidly.

Much of our knowledge regarding these types of the disease and the importance of bovine tuberculosis is due to Dr. Theobald Smith, formerly connected with our State Board of Health, who did so much for the cattle industry by demonstrating that Texas fever was caused by the tick.

Improvements in hygiene have been tremendous. Cleanliness is one factor. Even in immaculately kept rooms filled with plush carpets and heavy draperies dirt accumulates. Sunshine and fresh air were never allowed to enter many parlors unless for a wedding or a funeral.

The ventilation of houses led to attempts to secure ventilation of public buildings and schools. The lack of success in these attempts is shown by a visit to almost any school or hall. Yet in well meant endeavors rigid laws were enacted which compelled the police to enforce the adoption of expensive and inefficient artificial systems of ventilation. At last we are beginning to break away from these restraints and adopt more natural and effective and infinitely simpler methods of ventilation. The necessity of proper hygiene and ventilation in cow barns soon became evident, and the modern cow barn is today better and more scientifically ventilated than are most schools and public buildings.

Concentration and coöperation have been the reasons for the great success of the movement against tuberculosis. Concentration must be upon the tubercle bacillus wherever found, whether in human sputum or other discharges or in milk or meat. The elimination of tuberculosis in a herd of cows is simplified by the possibilities of killing the infected individual. Among humans the fight involves the awkward necessity of trying to save the life of the individual. At first came the education and control of the open spitter. Now has come the recognition of the need of detecting and curing latent disease in early childhood, for it has become known that much trouble manifesting itself late in life starts early. Hygienic measures to build up the resistance of the relatively weak, or if we so choose to call them the pretuberculous, is now the watchword.

It is not quite plain why only the delicate should be given the advantages of fresh air, sunshine and extra food. There is no reason why we should work against the law of the survival of the fittest. We are today saving the lives of the weak. It is true that in so doing and in keeping them from becoming infected we are removing a potential menace to the well. But we must go further and by helping the strong to be stronger prepare to breed a still healthier race.

There is still much to be done in the elimination of tuberculosis among cattle. And much can be learned from the fight being waged. Hygiene in the cow barn is just as effective as hygiene in the home. We cannot afford to lose sight of the rapidity and ease with which one diseased cow introduced into a tuberculosis free herd will spread the infection. There is no reason to suppose that the same thing does not happen in the home or community. Better resistance and better hygiene may hold in check the severity of the infection.

Coöperation in the fight is far advanced. It must go farther still. The medical profession, the State and local health authorities, the volunteer organizations, the milk producers, the agricultural authorities and the general public must all work together. Of these different elements in the community some are working more effectively than others. Our State health authorities are doing splendid work, so far as it is in their power to do. Volunteer organizations are doing tremendous good. Both of these forces depend for leadership, guidance, inspiration, upon the pioneer work of individual physicians. Trudeau blazed a path, which has become a broad highway. In this State there are others still living who have been pioneers to follow and develop the work started by Dr. Henry I. Bowditch, the founder of our State Board of Health.

Our local Boards of Health are of varying degrees of efficiency in the fight. Some are useless, others are doing work of the highest type. Nothing could be finer than the attitude of the Commissioner of Health of the City of Boston in his far sighted enthusiastic endeavors to secure the best possible advice and coöperation in his efforts to detect and eradicate tuberculosis. The establishment of health centers has marked a great step forward. The diffusion of clinics throughout the city, and the education of the public and the training of physicians at these clinics will be of inestimable value. The future generation of physicians will have advantages far ahead of those of the past and the present.

The milk producers do not have an easy time. The formulation of a broad minded policy which will gradually eradicate tuberculosis and give healthful milk to the public, while still making it possible for the farmer to live and at the same time make it for his interest to do the right thing is part of the work of our grange, of our State Departments of Health and Agriculture and of this organization.

There is need of the better training of physicians in matters of public health. Some of us do not see the advisability of such a sharp differentiation as seems to be growing up between the work of the physician who is supposed to look out for the individual and the one supposed to look out for the public health. A little change in the view point regarding medical education might yield abundant returns in better individual and public health.

Our local boards of health, some of which are of the highest standard, would in general be bettered were medical training a little less concentrated upon the specialties and the laboratory and a little more directed toward maintaining the health of the individual and the general welfare of the public. In most communities the physicians must be the leaders in public health matters. Medical education has not been really effective in training for this leadership, for which there is no adequate substitute.

The education and training of the public must be extended. In this physicians, nurses and the volunteer organizations must all take part. The fact that health is a purchasable asset must be driven home in terms that all can understand. That health is a profitable investment is being demonstrated by life insurance companies and by some large corporations. The truth must be understood and applied by the municipal corporations in which the entire public are share holders.

That conditions can be improved very rapidly is true. That they can grow worse rapidly is equally true. It is astonishing today to realize that in the old days of slavery in the South tuberculosis was rare among the negroes. The disruption of health activities by war was at once reflected in our vital statistics.

There must be no relaxation of effort. The final stages of the fight against tuberculosis are going to be long, tedious and not spectacular in any way. But they must be fought through to the end.

Those who make the fight will have the satisfaction of knowing that they are doing much incidental good. The cutting down of tuberculosis has been one factor in prolonging the lives of many to an age when they are liable to cancer. The increase in cancer has stimulated all in the fight against this disease. Yet how plain it is that the organization and conduct of the fight against cancer has been inspired by the success of the fight against tuberculosis. We cannot lose sight of the fact that the fight against tuberculosis has been of tremendous benefit in the fight against other diseases. There must be further effort toward more effective control of the contagious diseases which lower the resistance and render the individual susceptible to tuberculosis.

The medical profession owes much to the effort and coöperation of this organization. Probably all parasites have their uses. The benefits conferred upon the dog by the flea have been ably stated. Doubtless the various antis to the doctors serve a purpose, not always plain however. Your aid and your comfort are a great help in enabling us to forget the irritation they cause. For this and for the tremendous help you give we are sincerely grateful. We must never forget the watchword of Trudeau—Optimism.

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REPORT OF THE MASSACHUSETTS TUBERCULOSIS LEAGUE, INC.*

BY FRANK KIERNAN, EXECUTIVE SECRETARY

In conformity with established procedure your Executive Secretary is required at the Annual Meeting to give an account of his stewardship during the preceding year. This has been the first full year of the Executive Secretary in the service of the League. A report of activities for that period should embrace six divisions: Finances, Administration, Organization and Field Work, Legislation, Health Education, Collateral Activities and a Prospect.

Finances: The report as read by the Treasurer today and verified by a firm of certified public accountants renders an accounting of our financial operations. The work of the year was carried on under a fiscal policy developed and adopted by the Budget Committee and approved by the Board of Directors. The League during the year not only lived within the provisions of the budget but I am happy to state, through a program of economy in which all the members of the League Staff cheerfully coöperated, we were enabled to add to the emergency or sinking fund of the League the sum of $1500. The Budget Committee in January, 1927, again adopted a budget which was ratified by the Board of Directors on February 7 of this year. That budget was predicated upon a Seal Sale in the Commonwealth of $230,000 which, it is a pleasure to state, has been reached and, to a small degree, exceeded. The budget for 1927 is $23,000 and with our normal membership returns, which we may reasonably place at $1,000, and with a probable saving through economy of an additional $500, I have every hope that in 1927 we will again add an additional $1,500 to the emergency or sinking fund of the League.

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*Read at the annual meeting, April 26, 1927.

Discussion of the finances should necessarily include reference to the Christmas Seal Sale. As the President has stated, the Seal Sale of 1926 exceeded that of 1925 by a comfortable margin. This is, in my opinion, an achievement of no small magnitude, considering the very marked financial problems in a number of the larger cities and towns of the Commonwealth during the past year. That we were able to advance the Seal Sale in the face of these difficulties is a tribute to the industry and devotion and intelligent concentration of the volunteer and staff workers of the affiliated organizations in overcoming very serious obstacles.

I want at this time publicly to record our thanks to the National Tuberculosis Association for the assistance rendered us and our affiliated organizations in sending representatives to the State to assist us at our Seal Sale Conferences in the Spring and the Fall in the development of plans for a more intensive cultivation of the field.

ADMINISTRATION

In response to popular demand, expressed in a variety of ways, the offices of the League have been continued in their previous location. The numbers of visitors, from the Commonwealth, adjoining states and from foreign lands—ever increasing in number, I think fully justify the modest expenditure of funds for the maintenance of offices in the heart of the business section of Boston.

In my report at the last Annual Meeting I stated that the Staff of the League had been reduced by one. This year, except for retaining the services of a Field Nurse for a temporary period of five months to work in conjunction with the State Department of Public Health, we have continued with the same Staff. Whether we will be able to continue with the same number is somewhat problematical, as the requests for service from our own associations are increasing and the requests from other health agencies and educational and industrial groups are growing with great rapidity.

The publication of the *Massachusetts Health Journal* has continued on the same lines as last year. There is apparently entire satisfaction with the scope of this magazine as a house organ for the League members and the members of the affiliated organizations. We have endeavored to make it a Journal newsy in character, broad in its scope, attractive in its make-up and brief enough to be read by everyone. Its circulation is approximately 4000.

ORGANIZATION AND FIELD WORK

Your Executive Secretary has, in the course of the year, visited at least once and, in some instances, many times the twenty-seven affiliated organizations of the League. It has been my privilege to be invited to speak at the annual meetings of several of the organizations. Visits for detailed discussions of programs of work and the progress of the activities of the local organizations have been made frequently; so that the Executive Secretary may say that there is no affiliated organization in the State with whose work the League headquarters is not closely in touch.

Reference should be made to the progress and expansion of the work of certain of the affiliated bodies. The Boston Tuberculosis Association, under the leadership of Dr. John B. Hawes, 2nd, and Miss Bernice W. Billings, R. N., carried successfully through a survey of the tuberculosis situation in Boston made by Dr. Murray P. Horwood which was followed by a municipal survey conducted by Dr. Haven Emerson of National reputation which confirmed the findings of the Boston Association survey and which has resulted in substantial changes in the municipal care and control of tuberculosis, which puts this City on a parity with the other great cities of the country.

The Lowell Tuberculosis Council has, after a period of years, succeeded in inducing the the municipal authorities to take over the nursing work hitherto carried by the Council and has employed a full-time Executive Secretary who has inaugurated a constructive program of education along tuberculosis and public health lines, which has enlisted the coöperation of the municipal departments of the city and the other volunteer health agencies of the Lowell District.

The Southern Worcester County Health Association, under the leadership of Dr. Roy J. Ward, has secured the services of a full-time Executive Secretary who has energetically taken up the work of expanding the usefulness of that Society into every town of the Southern Worcester District.

The Southern Middlesex Health Association, after establishing one of the best developed health camps in the Commonwealth, has expanded its usefulness further by increasing its Staff through the employment of an additional nurse who is inaugurating a campaign of health education and industrial work in the populous territory of Southern Middlesex County, which has met with a ready response from public officials and private agencies alike.

In the city of Holyoke, through a systematic revision of the Christmas Seal Sale plan, the resources in that City have been more than doubled and an energetic campaign, predicated upon their larger finances, is being carried on.

In Bristol County the wisdom of a full-time Secretary has been realized by the Board of Directors of the County Organization and on January 1st a full-time Secretary was employed. Similarly, the Fall River Society has increased the service of its part-time Secretary to full time.

Your Secretary visited the Island of Nantucket in the Fall of 1926 and there organized a local Public Health Committee which carried on a Seal Sale resulting in several hundred dollars more than had ever been realized on that Island previously. These larger funds are being utilized to inaugurate a comprehensive program of health work for the people of Nantucket.

Of the new activities of the Cambridge Anti-Tuberculosis Association, which this year attains its 21st birthday, we are publishing in connection with the report of the proceedings of this meeting an article by the Executive Secretary of the Cambridge Association, Mrs. Mabel Greeley Smith, setting forth the history and accomplishments of that Organization.

The Essex County Health Association, in the face of serious economic depression in several of its larger places, increased its Seal Sale in 1926, and secured a substantial appropriation from the County Commissioners for the enlargement of its camp and is developing its program accordingly.

In Hampden County the well rounded out program of anti-tuberculosis work has been continued and the Executive Secretary and staff are rendering notable service in coöperation with the State Department of Public Health Ten Year Program for Children and in the State Cancer Program.

In Hampshire County the Public Health Association induced the County Commissioners to establish a summer health camp for children so that, beginning with the summer of 1927, they will be enabled to take care of an initial group of thirty children selected from the State Department of Health clinics of the Ten Year Program.

The limitations of space forbid a complete enumeration of the other affiliated organizations of the League, but they are all, without exception, in their own territories energetically working, developing their programs and, what is more important, developing interest in the field of preventive health work on the part of both public officials and lay organizations in such a manner that, as I journey over the State, I hear everywhere the graphic comment that the most active health organizations are the tuberculosis societies.

LEGISLATION

The same arrangement regarding the League participation in legislative work that obtained last year was carried out again this year. Under this arrangement the League lent its support to such measures as, in the opinion of the State and Local Health authorities, were in the interests of public health and opposed those measures which seemed inimical to the best interests of public health work. We therefore energetically supported the Pasteurization Bills, the Bill to make mandatory compulsory vaccination for private schools, and the Bill to elevate the standards of medical education by giving power to the State Board of Registration in Medicine to pass upon the standards of medical schools. We also, with the very generous help of the affiliated organizations, made a concerted effort in opposition to the proposed Chiropractic Bill. The last named Bill was happily defeated and while some of the other measures which we favored were not passed the purpose of the measures was fully set forth before the Legislature and we hope that next year these important additions to the Law will be successfully carried through.

HEALTH EDUCATION

The educational work of the League, under the very capable hand of Miss Anna W. Johnson, has gone forward with the results which she has so admirably presented here this morning.

It is with great pride that we hear mentioned at National Headquarters and in the offices of the other state associations that no other tuberculosis organization in this country is doing a more thorough piece of work in health education than Massachusetts. There are organizations which are doing a larger piece of work because they have more funds but, with our limited resources, the health education work of the League stands alongside that of any other association in the United States.

COLLATERAL ACTIVITIES

Your Secretary was invited to confer with the Section on Public Education of the State Medical Society at its Annual Meeting and, at that meeting, read a paper setting forth a program of public education, which was adopted by that Section of the Society.

Your Secretary was appointed a member of one of the sub-committees of the National Conference of Tuberculosis Secretaries. Your Secretary addressed in various parts of the Commonwealth Rotary and Kiwanis Clubs, Parent-Teacher Organizations, Mothers' Clubs, and the faculties and student bodies of a number of schools. Your Secretary visited, with two exceptions, all the health camps conducted by the affiliated organizations of the League. Your Secretary attended the conferences of the New England Tuberculosis Secretaries held at Burlington, Vermont, and Boston and, for the year 1927, was elected President of that Conference.

It has been my privilege during the year to meet frequently with the State Commissioner of Public Health, with the Acting Director of the Division of Tuberculosis of the State Department, with the Health Commissioner of the City of Boston and with many of the Health Officers in the cities and towns throughout the Commonwealth. I have attended the meetings of the Massachusetts Association of Boards of Health and the meetings of the Massachusetts Central Health Council.

In conjunction with Dr. John B. Hawes, 2nd, President of the Boston Tuberculosis Association, and Mr. Frederic Edwards, Executive Secretary of the Hampden County Tuberculosis and Public Health Association, your Secretary prepared an article on the summer health camps in Massachusetts, which appears in the current issue of the *Journal of the Outdoor Life.*

Conferences of local Secretaries who conduct summer health camps have been held three times during the year. Conferences for the Western Secretaries have been held regularly at the office of the Hampden County Tuberculosis and Public Health Association at Springfield.

As President of the New England Tuberculosis Conference, your Secretary is now arranging, in conjunction with the State Health Commissioners of the New England States, a suitable program for the tuberculosis section of the New England Health Institute which will be held in Providence in September.

Your Secretary attended the National Tuberculosis Association Convention at Washington in October and presided over the National Seal Sale meeting of Secretaries and representatives of the Associations in the forty-eight states of the Union.

In conjunction with the National Tuberculosis Association your Secretary organized the first Institute for Tuberculosis Workers ever held in New England, this being conducted at the Harvard School of Public Health from the 31st of January to the 12th of February, 1927. Thirty members of the staffs of state and local tuberculosis association and Boards of Health of New England received a two weeks' course of intensive training under the leadership of Dr. Philip P. Jacobs of the National Tuberculosis Association.

PROSPECT

This somewhat rosy picture of the progress of our work might leave an impression that there are not serious problems present and ahead: the problem of securing a better reporting of tuberculosis cases and the follow-up of patients discharged from hospitals and sanatoria, problems of personnel and finances, problems between affiliated organizations and the contiguous organizations, problems of how to do a better job with about the same resources from year to year, problems of how to meet increasing demands upon us within the natural limitations of time and strength, problems of balance between the responsibility of the duly constituted health authorities and the responsibilities which the League and its affiliated organizations have assumed. These and many other problems are with us and ahead of us but, after all, as problems they exist only to be overcome. The year 1926 saw many problems met and solved. With the continued and inspiring support of the officers and secretaries of the affiliated organizations, with the inspiring leadership of our President and the Executive Committee of the League, with the most harmonious and understanding helpfulness of the authorities at the State House, there is no question but that we will meet and solve successfully all the problems that are confronting us this year.

In closing may I remind you that, after all has been said about finances, organization, legislation, field work and the rest, the one dominating thought which we of the League have is that all these activities, great or small, should be centered in and upon the great objective, namely: the prevention of tuberculosis. It is a very human tendency to permit the shadow of organization to obscure the substance of the real task to which we have dedicated ourselves. It is our intention in this coming year, with all the energy and self-control which we possess, to keep constantly before our eyes the thought that the important thing is not making the wheels go round or keeping the machinery running smoothly or doing the dressy things which have such a human appeal but which are not the essentials, but rather to do those things day by day which count mightily for the prevention of tuberculosis and to see that, so far as it is possible, the work which we do contributes to that end without halting or reservation.

ANNUAL REPORT OF EDUCATIONAL SECRETARY*

April, 1926—April, 1927

BY MISS ANNA W. JOHNSON,
EDUCATIONAL SECRETARY

THERE is a deep and beautiful significance in the definition—"Education is the art of learning how to live" and what definition could express more perfectly the aim and purpose of Health Education—than that of learning how to live?

This year marks a most notable growth in health education,—not only a growth of interest and effort but far more reaching is the deeper and keener realization of its potential strength and power—of its place in the all round development of human beings. Health Education now begins "to come into its own." It was a thrilling moment when, at the Washington Conference, the President of the American Medical Association rose in his turn and said, "I am scheduled to speak on the health examination of the apparently well individual; I can talk on no subject until I talk on Health Education" and thereupon he gave a most enthusiastic account of the growth of Health Education and stressed its tremendous possibilities in the preventive program.

Since a report will be printed of the educational work and since the statistical report of the educational activities is available to all those interested to have it, this report will attempt to point out some problems and some achievements —it will describe briefly some of our new contacts and activities.

In the tuberculosis field—there is still the sad picture of an on-rushing tide which has not been stemmed. The art of learning *how to live* has not functioned early enough or intensely enough to prevent disaster.

It is hoped that the recital of certain incidents, in this report, will show that, although there is still a dark background on which our work is sketched, the outlines and designs of our work grow bolder and stronger as we try to erase the foreboding and disaster; we can today report progress and results.

It seems well in the annual analysis of our work to list each time our assets and our liabilities.

THE PROBLEM

We list *Liability* when it is found for instance that this fall a girl, who has been through all grades of one of our more prosperous town schools with a physical examination record in each grade, dies at the age of 18 from tuberculosis. Where did the art of learning how to live fail in that case?

What is the answer when a boy in the fourth grade is taken one night by his father to a doctor for examination and the boy lives only three weeks from that night? He had been attending school quite regularly with an adult case of tuberculosis.

In a nearby suburb a girl is dying today who had been through all the grades with no note of any special defect or delicate condition.

Very recently—a boy left high school and went to work in an acid room of a sporting goods firm. His sister who was in high school at the time was taken ill and found to have tuberculosis; the boy, had evidently had the disease for some time and was sleeping with a younger child in the family as was also the girl.

This is not a new story; each turn of the wheel in the tuberculosis field brings evidence of repeated cases—but it is perhaps fitting to state these problems again as we answer the challenge of how the problem is being solved.

Can there be any better—any truer solution than this "learning how to live"—which shall build a *resistance*—a power of vigor and strength against the enemy?

What is our record?

OUR CONTACTS AND ACTIVITIES

Mention of some our contacts and activities may show how we have tried to attack the problem.

More effort has been made to stimulate and assist those directly responsible for the art of learning how to live, that is,—the teachers, (instead of the children) parent groups—the Sisters in our parochial schools.

One of our most interesting new contacts has been the Americanization Supervisors who direct the education of the adult alien in factory or in evening school. From these supervisors has come a remarkable response as they have carried the message and worked out the health motif in the groups which many times contain the fathers and mothers of the children we try to reach in the schools. Through this group came the invitation to speak to a Racial Council including representatives from the various foreign groups in the city and from this, in turn, an invitation to meet with a Greek lodge. A young Greek insurance man told very sad experiences found in his daily work and was most earnest in voicing the need for more of the art of learning how to live, as he related astonishing evidence of lack of knowledge among the Greeks as to the very fundamentals of prevention.

In addition to the new work with the Americanization supervisors, new contacts have included the Industrial Nurses' Association, several school nurses' conferences, church groups, girls' club and Junior High School groups for talks on tuberculosis.

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*Read at the annual meeting of the Massachusetts Tuberculosis League, April 26, 1927.

We have had pleasant and interesting contact with the supervising nurse and assistants of the telephone company. Health Classes have been started in all branches and the nurse pointed out the need for preventive work when she cited the instance of two seventeen year old operators in one office sent away in one week to die of tuberculosis.

Again it is a vocational school where 400 boys come under the wise leadership of a director tremendously interested in their welfare. They come there in many instances out of step with the academic school life—anti-social—rough—uncouth and there they learn how to live as they are taught vocations. An interesting report told of the questions asked—the discussion resulting from the study of health posters, for instance.

A venture has been made into the high school field and six high school assemblies have been addressed, one in connection with the high school clinic at Randolph under the auspices of the Norfolk County Public Health Association and one for the high school clinic at Stoneham under the auspices of the Southern Middlesex County Health Association. A whole report might be devoted to this field alone in its mighty challenge and its possibilities.

Through the kindness of Dr. Chadwick, X-ray examinations were offered to all the pupils in these two high schools and in one clinic 63% of the student body volunteered and in the other 65% responded to the invitation for X-ray examination.

From the Stoneham Clinic a total of 419 students were X-rayed; 36 or 7% were referred for further examination and this examination will be held in the near future.

At the Randolph Clinic of 143 X-rayed, in 8 or 5% were referred for further examination. These examinations were given by Dr. N. R. Pillsbury, Superintendent of Norfolk County Hospital.

The reports are not all available as yet but from those already received we may conclude that even as Dr. Rathbun in Chautauqua County, New York, found the examination of students well worth while from the standpoint of conditions discovered, we feel amply justified for the time and effort expended in the examination of high school students here.

Detailed reports of the Randolph and Stoneham examinations will be made when there has been sufficient time for the thorough analysis of the findings.

Posters, outlines, suggestions for health programs have been sent into various high schools and junior high schools.

Again, we have succeeded in interesting high school pupils in the Playwriting Contest. Again Mr. E. E. Clive of the Copley Theatre has served as a most interested and wise judge and he has made the interesting statement that each year he has seen a surprising growth of ability and dramatic presentation in the plays.

As these students, beginning with a lack of interest in health or a peculiar attitude toward it, develop a play with a genuine health message, we recognize that this Playwriting Contest becomes a ways and means of health education in the high school. It is to be hoped that this Playwriting Contest may continue its success for at least two years more as we all aim to broaden and develop this whole field of High School Health.

Our new Contest this year is a Teacher's Scholarship Contest and, for those who have not heard it, Prof. Turner's statement is repeated here:—"Your money will be well invested. My experience with M. I. T. scholarships convinces me that you could not begin to buy the same amount of health work for school children for $200 in any other way. I hope eventually some of your local chapters can follow your example to give a local scholarship. . . ." This contest, of course, is to stimulate effort and endeavor among our key people in this health education field—the teachers—and also to recognize the splendid work already accomplished.

Much publicity has been given to our Health Photograph Contest especially because of the very generous offer of John Hancock Life Insurance Company to accept the best of the health photographs submitted in the contest, for their new booklet on the Health of the School Child.

ACHIEVEMENTS

And how can we count results?

One very definite aim of the educational work with teachers has been to awaken their sympathy and interest in the delicate children but especially to develop keener observation of all children and also the relationship of physical and mental handicaps in their classes.

Therefore, may it not be reckoned as achievement—when our public and parochial schools are all buying scales to test their underweight pupils? when we find, for instance, that in one of the parochial schools the home conditions of all seriously underweight children are being investigated and that thereby one Sister found in a home—a mother and father with tuberculosis, nine children in the family—four sleeping in the bed with the father and mother. In another instance—a Sister was worried about a boy and girl with the result that these children are *now* in a sanatorium because of this Sister's keen observation and interest. In all the fine response from the Sisters in the parochial schools, we have continued to have the same support and coöperation from Father Quinlan which was given so generously by Father Hickey.

Here is a city school where heretofore the principal's whole time and consideration has been spent in the administrative and academic field. Now a visitor may see on a tour of the rooms, that the principal asks about underweight —is concerned, as one might well be—to find in one room—fifteen badly underweight children. Here we find a boy who had been biting his nails "to the quick"; his desire to be Health Inspector of his class was the first stepping stone in the struggle to improve; now the visitor may see an entire set of fine nails as one of the factors in the boy's improved appearance and his nervousness decreases as his self respect and pride constantly increase.

There is a growing concern among teachers for the children who have insufficient sleep; children delicate and underweight who have strenuous physical exercise, who carry a heavy schedule of music lessons, dancing lessons. In a fifth grade is an extremely delicate looking child, underdeveloped and much underweight—an only child—petted and spoiled by her parents who are oblivious of the fact that the child is a bundle of nerves, can scarcely move without twitching but is in constant training for music, dancing with late hours as an accompaniment.

In contrast to this picture is a school where a teacher has picked out some nervous children who are excused from physical exercises and sent instead into the sun for an extra period and given additional milk.

Manuel belongs to a family who know neither peace, harmony or ordinary comfort of any kind. The father becomes almost insane in fits of anger and rage; the police are frequent visitors at the home. Manuel, naturally enough, showed a pugnacious spirit, was constantly on the defensive; at other times he became almost melancholy. He was dirty, shabby, ill-kept. His unhappy attitude was pathetic. But Manuel is now in a room where there is a perfectly fine vitally interesting health program. It is touching to see this boy today; he has become interested in his improved appearance, he shares the pride of the others in their health record; he is the proud wearer of a necktie and clean blouse given him by the teacher;—here at school he is happy for a few hours at least—all through a little injection of the art of learning how to live.

One of the most obvious tests of the efficacy of the Health program is the decrease in underweight.

The following is typical of the letters which may be read often in our office: "At the start of the Crusade there were 11 children badly underweight. When this group was weighed 2 months later only *two* were 10% underweight." or—

"A boy who wouldn't touch milk was swung by public opinion into the Milk Brigade. After 10 weeks he had passed from the 10% underweight class to 3% underweight."

There is the relationship of the mental standing to the physical which is a constant source of surprise to our teachers; it is one of the best possible arguments for the health education program.

A 14 year old girl was helping her mother until midnight. She was so markedly low in all her studies that her case was investigated and conditions found as stated. She is now going to bed at 8 o'clock and there is a steady surprising improvement.

Another child who appeared to be sub-normal —turns out to be a normal child adjusting himself as a social being—playing and studying with enjoyment.

A town where health work has been consistently—continually carried on for several years has the enviable record, second to none, I believe—of having cut its underweight record of the whole school population to only 2%.

One of the most satisfactory recent reports stated that the school nurse said the Crusade in one term had accomplished what she had been trying to do for four years! This points out the great secret to be taught constantly to teachers—that in the ***group*** of the *classroom* or club lies the opportunity to best develop the art of learning how to live through competitive projects, through class loyalty and many other factors allied with the group method.

Instead of listing any statistics, it may be of interest to mention a few points indicative of growth.

The number of meetings with Sisters of different parishes has been doubled this year.

The total of group meetings has been increased by 33 and the number of people addressed has been doubled.

Although our concentrated efforts have centered on teachers' groups (instead of children's groups) a greater number of children were addressed this year.

It is encouraging also to note greater activity in our loan and sales service—as our number of sample sets sent out is nearly twice as great this year as last; our library loans are increased by 150 and 400 more letters have been dictated.

We have helped to correct a new set of health information tests just introduced into a few schools. Many of the pupils stood very high—showing well grounded teaching in health principles but you may be interested in some rather surprising statements brought to light as for instance: "People who take habit forming drugs are usually those who are successful!" or "People who take habit-forming drugs are those who are happy!"

Again we are told that:—"One reason why milk is important is because it prevents typhoid fever."

It may also be of interest to know that:— "Tuberculosis is spread by mosquitoes and rats" or "Tuberculosis is spread by high winds."

The doctors present may be interested to hear that one boy writes "I wish we could have Health Day every day because I'm going to be a doctor when I grow up—besides it's very interesting."

And so the background of our problem grows brighter and ever brighter as these varied and vital pictures add their color and light to lessen the shadow.

This report cannot close without a word of grateful appreciation for the constant, patient, loyal support and generous assistance of my Chief and of the President of the League.

May I also bear testimony to the coöperation and support of the local associations? The work of Health Education, as every other activity of the League, can function and succeed only so far as it functions through local associations. In the midst of administrative duties, with the ever pressing burden of Camp and Seal Sale work, our local secretaries have increased their demands for health education activities—have constantly interwoven in the pattern of an entire program—the health education factor which must play its part in the great preventive field.

And so we all again pledge renewed efforts as we accept the responsibility of building toward a brighter, better day.

ATTACKING THE CRIME PROBLEM

A recent news dispatch from Albany, N. Y., announces the appointment by Governer Smith of Dr. Raymond F. C. Kieb to the post of New York State Commissioner of Correction. The significance of this appointment lies in the fact that the Governor has realized that much of prison work is really psychiatric work, and that a technical job needs a technical man—a piece of logic all too often ignored when appointments are made on a political basis. Dr. Kieb is a psychiatrist who, since 1905, has been associated with prisons and institutions dealing with mental diseases, and for the past several years has been superintendent of the Matteawan State Hospital (for the criminal insane). Thus it may confidently be expected that something constructive will be done with that part of the crime problem relating to the handling of prisoners.

Dr. Kieb represents one of a small, but we hope growing, group of penologists who are more interested in the criminal than in the crime, and who believe that no solution to the problem will be adequate until something is accurately known of the types of individual who habitually commit crime. In a newspaper interview Dr. Kieb is reported as favoring an extensive but intelligent granting of paroles. The National Committee for Mental Hygiene has pointed out repeatedly how futile is a parole system where prisoners are released by the calendar in the absence of knowledge or understanding of their mental status and with no likelihood that their prison stay has done anything to lessen their fundamental antisocial tendencies.

Dr. Kieb is firm in his belief that paroles should be granted only after competent psychiatric study and treatment of the prisoner make it likely that the psychopathology has been corrected, and that satisfactory readjustment to society is reasonably certain. If the prisoner's mental abnormalities (and Dr. Kieb realizes that a large proportion of prison inmates are mentally abnormal) cannot be cured, then he recommends permanent segregation away from the community in appropriate institutions or colonies. This, too, is quite in accord with modern scientific views on the subject and indicates that the new commissioner has his feet planted squarely on the ground. —*Mental Hygiene Bulletin.*

DR. GEORGE E. VINCENT DISCUSSES PUBLIC HEALTH AND MENTAL HYGIENE

EXCERPTS FROM ADDRESS GIVEN AT ANNUAL MEETING OF CANADIAN NATIONAL COMMITTEE FOR MENTAL HYGIENE, MONTREAL, DECEMBER 3, 1926

Mental hygiene has come. It has come to stay. It has come as one of the most important and fascinating, and, let us say frankly, one of the most immature of all forms of social inquiry in connection with public health. . . .

Of late years, we have been establishing juvenile courts and conducting the proceedings in these courts in an unlegal way—you have no idea how human you can make institutions if you stop being legal. At the present time, it is considered a poor court that does not use a psychiatrist or a psychologist who is able to assist the judge in interpreting a given case and to assist the probationary officer when the child is placed on parole. . . .

When the mental hygienist begins to devote attention to college students and school children, he is forced to deal with parents. There are those who feel that parents are quite hopeless—who feel that you cannot do anything with them and that you might as well concentrate your efforts on children with the hope of making some impression on the rising generation. But that does not take into account the fact that children have to go home to their parents. So it is necessary to undertake the task of training parents. . . .

Has mental hygiene completed its task? No! It is only beginning its work. To the ones who are interested in it, the problems are becoming more and more clear, and, as a result, there is an abiding faith that more can be achieved as we learn more. . . .

A very significant and important thing to remember is that the various hygienes, the control of communicable diseases and the sanitation of the environment are all part of one movement. The idea that you can touch any of them—that you can deal with or dwell on one to the exclusion of the others—the idea that you can develop any one of them very far until you have developed the others is one of the great fallacies—and what is termed mental hygiene permeates all the other hygienes.—*February Bulletin. Canadian National Committee for Mental Hygiene.*

AVERAGE LIFE SPAN IN WISCONSIN RAISED EIGHT YEARS SINCE 1908

The average age at death in Wisconsin for the year 1925 was 48.8, in contrast to 40.8 years for 1908, according to statistics compiled by the Wisconsin State Board of Health, and made public by the United States Public Health Service April 27

The statistics, covering death rates from 1908 through 1925, discloses that in 1918, when the severe epidemic of influenza occurred in this country, the average of death in the State was much lower than for the preceding few years, being 38.4 years.

One of the factors causing increased longevity, according to the Wisconsin Health Board, is better control of communicable diseases, borne out by statistics on the main causes of death.—*United States Daily.*

Case Records of the Massachusetts General Hospital

ANTE-MORTEM AND POST-MORTEM RECORDS AS USED IN WEEKLY CLINICO-PATHOLOGICAL EXERCISES

EDITED BY R. C. CABOT, M.D.

F. M. PAINTER, A.B., ASSISTANT EDITOR

CASE 13201

A PROFOUND ANEMIA OF OBSCURE ETIOLOGY

MEDICAL DEPARTMENT

A rubber factory operative twenty-three years old was sent from the Out-Patient South Medical Department December 23 for study of a large sloughing ulceration of the lower lip.

Three weeks before admission he noticed pus drainage and soreness around the gum line in the region of the first and second right molars. The trouble progressed forward. A week before admission three lower anterior teeth were extracted. Since that time the infection had spread, involving the lower lip, and keeping him in such agony that he got little sleep. He staunchly maintained that a venereal origin of the trouble was impossible. Dark field examination in the Out-Patient Department showed numerous spiral organisms, most of them of the Vincent type, but some strongly suggestive of treponema pallidum.

His past history and family history were negative except that his mother died of cancer. He denied the use of alcohol.

Clinical examination showed a poorly developed, emaciated, very anemic looking young man, evidently suffering. Both eyes showed a yellow mucoidal exudate. The lip in front of the cavities of the three lower front teeth on the right was edematous, and from base to outer skin margin was sloughing, in spots black. He could not open his mouth wide enough for examination of the inside. There seemed to be no free pus in the slough, but it had a yellowish appearance for the most part. A small area of skin adjoining this ulceration was excoriated. Heart normal; a soft blowing systolic murmur, best heard at the apex. Blood pressure 114/68. Prolonged sighing expiration at the right apex, not above physiological; a few coarse bronchial râles throughout the lung. The rest of the examination was negative except for doubtful hemorrhoids.

Urine essentially normal at eleven examinations. Renal function 50+ per cent. Blood: 8,500 to 3,500 leucocytes, polynuclears 55 to 12 per cent., hemoglobin 80 (?) to 50 per cent., reds 3,700,000 to 2,180,000; entrance smear, moderate achromia, slight poikilocytosis and anisocytosis, platelets normal; later smears showed rare to occasional tailed forms, macrocytes and microcytes, one stippled cell to occasional stippled cells, platelets decreased and very abnormal, frequently huge, and deeply stained. Reticulated cells 1.3 to 9 per cent. Differential count January 24, polynuclears 12 per cent., large lymphocytes 6 per cent., lymphocytes 8 per cent., mononuclears 11 per cent., atypical lymphocytes 9 per cent., atypical mononuclears 38 per cent., atypical polynuclears 4 per cent., unclassified 11 per cent., no eosinphils or basophils, 1 per cent. blasts (lymphoblasts?). Many red cells with Isaac's granules. Wassermann negative. Two blood cultures negative. Non-protein nitrogen 29. Coagulation time 20 to 30+ minutes. Icterus index 5. Clot retraction normal. Uric acid 2.1. Creatinin 1.5. Fasting contents of stomach: no free hydrochloric acid, total acidity 10, guaiac negative. Test meal: no free hydrochloric acid, total acidity 5, guaiac negative. Stools; guaiac negative; no lead. Dark field examination showed abundant Vincent's organism but no treponemata pallida.

X-rays of a barium meal and of the skull and long bones showed no evidence of pathology. The left antrum was less radiant than usual. The frontal sinuses were underdeveloped. There was a small area of rarefaction about the root of an upper incisor. The heart shadow was round and large across the auricle. The hilus shadow was moderately increased on both sides. The larger lung markings were rather prominent.

Consultations. Oculist: "Patient has epiphora which is probably secondary to some nasal disturbance." Internist: "I do not think this is lead or benzol. It may be the result of arsenicals . . . His pain seems like a hypermotile gastro-intestinal tract rather than a hypertonic one. I would try nitroglycerin,—if it is hypermotility it will do no good, but it will relieve hypertonicity. Sodium thiosulphate may help if it is arsenic." Laryngologist: "Thick and deviated septum with slight crusting. Transillumination negative. Later submucous resection?" Second laryngologist: "I do not think deviated septum is causing dacryocystitis."

Temperature 97.8° to 104.5°, with periods of special elevation January 12, February 4 to 9 and 11 to 15. Pulse 70 to 130. Respirations normal except for 29 January 13.

The patient had severe abdominal pain at night, relieved by an enema. December 20 he was given 0.45 grams of neodiarsenol. The lip lesion was irrigated daily. By December 27 it was dry and black but improving, and the edema was disappearing. There had been two sloughs from inside the lip. On the outside skin surface the lesion appeared to be spreading. On December 28 a fissure was forming to the right side of the necrotic area reaching to the bottom of the lesion and beginning to undermine the area inferiorly also. It appeared that the old lesion would slough *en masse*. Another injection of neodiarsenol was given. The patient's general condition and spirits improved. January 4 a part of the lip sloughed. The lip was strapped. The patient seemed to be more pale than at admission.

January 10 examination showed extremely marked pyorrhea, teeth in wretched condition and undescended left testicle. Quartz light treatment was started January 12 and continued until his discharge. The abdominal cramps each night continued to be worse until he had a barium meal, when they stopped for ten days. Dental prophylaxis was started. After the gastric analysis dilute hydrochloric acid after meals was started. February 11 transfusion of 550 cubic centimeters of blood was done. Fourteen days later he was running a septic temperature and had diminished breath sounds and bronchial breathing at the right base behind near the vertebrae. A week later the temperature was normal, the red count and the hemoglobin rising. February 27 he was transferred to the Eye and Ear Infirmary for plastic operation.

At the Infirmary he was not considered to be in a condition to warrant operation. The day after admission he began to run a temperature of 100° to 101°, later reaching 102°. Later in the week he seemed very lethargic and depressed. He refused to eat, frequently fell out of bed or climbed out, and gave no satisfactory rational replies upon questioning. An area of necrosis developed around the left upper teeth. The breath was very foul smelling. He also developed a conjunctivitis. X-ray showed pus in the left ethmoid and antrum, the ethmoids narrow, the frontal sinuses undeveloped. There was marked pyorrhea. It was thought the pain and temperature came from the tooth infection.

March 6 he was readmitted to the Massachusetts General Hospital.

On clinical examination he was in semicoma but could answer some questions with effort. The skin showed marked pallor. The mouth was red from mercurochrome. Sclerae injected; sticky exudate on eyelids. Eye movements seemed normal. Slight reddening about the right orbit. Right mastoid reddened. Tenderness over both antra, more on the left. Breath very foul. Upper teeth on the left very loose. Molar regions soft. A necrotic area on the left side of the hard palate near the molars. Throat red. Lungs apparently clear. Heart as before, with loud second sounds at the base. Right rectus rigid. Doubtful tenderness. Rectal examination showed doubtful tenderness on the right. Slight anterior bowing of the shins; rounded margins. Reflexes active. Sustained ankle clonus. Fundi negative.

Urine not remarkable. Blood: leucocytes 9,550 at admission, 15,300 March 13, 5,200 March 17, 20,400 March 26, 8,150 April 7, 20,000 April 17; polynuclears 1 per cent. (with 9 per cent. atypical polynuclears) to 64 per cent.; hemoglobin 45 to 35 per cent., reds 2,800,000 to 1,120,000; at entrance marked achromia, moderate poikilocytosis and anisocytosis, some stippling, platelets abnormal. March 23 little or no achromia, platelets normal or slightly reduced, frequently very large, very abnormal staining. April 17 slight achromia, anisocytosis and poikilocytosis, platelets diminished. Reticulated cells 3 to 1 per cent. Blood culture, no growth. Stools negative.

Temperature elevated throughout, 98.5° to 105°, with periods of special elevation March 6 to 11, March 22 to 28 and April 9 to 15. Pulse 65 to 150. Respirations 17 to 33.

Two throat consultants thought that owing to the condition of the nose the "pus in the left antrum" seen by X-ray was chronic rather than acute. It was thought the antrum should be irrigated if the patient became rational enough to make it safe. They felt he was in no condition to have operative work done. Dental care was continued.

A medical consultant did not know whether X-ray treatment should be attempted unless the nature of the lesion was definitely determined.

The night of admission the patient seemed better and the temperature fell from 105° to 102°. March 10 two left upper bicuspids were extracted. The next day the patient was much better. March 16 washing of the left antrum showed a normal return flow of clear fluid. The spleen was easily palable March 21 for the first time. The ulcerations in the mouth advanced rapidly. The next day the side of the face over the left antrum was swollen and slightly tender. There was a slough measuring 3 to 4 centimeters on the roof of the mouth to the left. There were surprisingly few glands, none of importance. The mediastinum was not dull. The lungs were negative. The spleen could be felt two or three centimeters below the costal margin. The liver was not enlarged. The left testis while undescended did not suggest tumor.

March 26 a barium enema showed the cecum fixed, apparently adherent posteriorly. There was no definite evidence of organic disease of the colon.

March 27 another throat consultant thought the process had probably started in the roof of the mouth, inasmuch as processes primary in the antrum as a rule protrude through the canine fossa.

March 29 biopsy was done. Fragments from the palate showed a structure too necrotic for diagnosis.

April 4 three throat consultants were unable to make a diagnosis. They advised removal of teeth and sloughing tumor, but not operation on the accessory sinuses. They suggested transfusion and biopsy.

April 8 he had tooth extraction and biopsy of small fragments of the upper jaw at the Eye and Ear Infirmary. The biopsy showed a chronic inflammatory process. April 12 transfusion was done. The following night the left cheek showed tense pitting edema and was very tender. The mouth was in a horrible condition. There was a gangrenous odor to the breath. April 20 the patient died.

DISCUSSION

BY RICHARD C. CABOT, M.D.

NOTES ON THE PHYSICAL EXAMINATION

Dr. Cabot: I should like to get the figures of that blood count in February.

Miss Painter: The red count reached 3,100,000 and the hemoglobin sixty per cent.

Dr. Cabot: Dr. Hunter, is there anything not in the history that you can add?

Dr. F. T. Hunter: Nothing, except that the boy was quite a problem all the way through.

DIFFERENTIAL DIAGNOSIS

Dr. Cabot: This seems to be a process starting in a mild ulceration, about the first of December, and ending in death toward the end of April,—five months. So far as I see the mouth lesions were primary, i. e. were the cause of the other troubles. One always wonders in the presence of anemia whether ulcerations such as these are not secondary to the anemia or to some other process in the bone marrow or elsewhere that we do not easily see. But I do not see any reason to suppose so here. I do not see why we should not say that this is an ulcerative process of the mouth, very possibly associated with Vincent's organisms, and resulting in a stubborn type of anemia which got better and then got worse, and showed peculiarities which I cannot well explain. There was a large percentage of reticulated cells, which ordinarily shows good effort at regeneration; on the other hand a small percentage of polynuclears, so that the effort did not include that side of the blood-making tissue. Whatever toxin is responsible for this condition seems to be depressing the red side of the blood forming tissue rather than the white. It does not fit pernicious anemia in a number of respects. We have no evidence of a primary bone marrow tumor. The spleen did not become enlarged till towards the end. He had no enlargement of the glands, and therefore I do not see why we should think of neoplasm of the hematopoietic system.

The striking thing all through the case is that there is nothing to cause the anemia except in and around the mouth, (including the accessory sinuses.) If there is pathology elsewhere we have no way to know it.

I predict that Dr. Richardson will not reveal any source for this anemia other than that which is shown in the local lesions: septic anemia. I should like to know if any other opinions were held on that.

Dr. Hunter: We thought he might have a malignant lymphoma, which sometimes gives a low-grade infection of the mouth. This suggestion was one of the reasons why X-ray therapy was considered and given a trial. I do not see that it did any good.

Dr. Cabot: Did anybody try to say where the lymphoma was?

Dr. Hunter: No. He had a pain in his abdomen.

Dr. Cabot: That is the difficulty, isn't it? Were any other alternatives that you know of considered?

Dr. Hunter: Benzol poisoning also. He worked in a rubber factory as a cotton man, but we could not make out that he had had any exposure to the chemicals or solutions.

Dr. Cabot: I suppose it would by some be put down as a secondary aplastic type of anemia.

Dr. Hunter: At one time we wondered whether it might be the result of arsphenamin. He was apparently already anemic.

Dr. Cabot: He had not had a great deal, had he?

Dr. Hunter: No. But sometimes arsphenamin may develop a very queer picture on just a few injections.

Dr. Cabot: I do not suppose we shall ever know the truth about that. But I do not believe arsphenamin is the cause.

Dr. Young: Won't Vincent's infection do all this?

Dr. Cabot: So far as I know, yes; certainly it can cause all the local lesions; but I do not think I distinctly remember its causing an anemia so severe. Yet I do not see why it should not, it is such a tremendously destructive process.

Dr. Paul D. White: Could this be comparable to noma?

Dr. Cabot: Yes; but that is such an old term. I suppose "noma" was something like this, only generally in younger people, as I recollect.

CLINICAL DIAGNOSIS (FROM HOSPITAL RECORD)

Ulcerative stomatitis.
Anemia, secondary.

DR. RICHARD C. CABOT'S DIAGNOSIS

Ulcerative stomatitis (due to Vincent's organism?).
[Secondary (septic) anemia.]

ANATOMIC DIAGNOSIS

1. *Primary fatal lesion.*

Extensive ulcerative gangrenous stomatitis.
Secondary (septic) anemia.

2. *Secondary or terminal lesions.*

Purulent sphenoidal and ethmoidal sinusitis.
Small area of softening, left frontal lobe of brain.
Hyperplasia of the bone marrow.
Infarcts of spleen and kidneys.
Soft spleen.

3. *Historical landmarks.*

Meckel's diverticulum.
Chronic pleuritis, right.
Small areas of fibrous myocarditis, wall of left ventricle.
Undescended left testicle.

Dr. Richardson: He was an emaciated white man. The examination of the head showed a very extensive foul-smelling gangrenous stomatitis involving the roof of the mouth and extending into the region of the sphenoidal sinuses. The sphenoidal and ethmoidal sinuses and the posterior nares contained much foul stinking necrotic material. The brain weighed 1285 grams and showed no definite lesions except that in the left frontal lobe, the anterior third, and in the white matter, and extending to the cortical region on the left lateral aspect, there was a small area of pasty softening. The bone marrow of the right femur was abundant, filled the cavity, was brown, rather meaty, and was cut out easily. Microscopic examination showed hyperplasia of the bone marrow, presumably the hyperplasia that is associated at times with extensive sepsis.

The peritoneal cavity and the gastro-intestinal tract were frankly negative. There was a small Meckel's diverticulum. The mesenteric and retroperitoneal glands were negative.

The lungs showed pale red spongy tissue which yielded a small amount of reddish frothy fluid. There were no areas of pneumonia.

The heart and the circulatory apparatus generally were frankly negative. There were a few very small areas of fibrous myocarditis, of no significance.

The liver, gall-bladder, pancreas, spleen, and adrenals were negative.

Dr. Cabot: Was the spleen enlarged?

Dr. Richardson: The spleen weighed 175 grams, and showed an infarct at one place, but was otherwise negative.

The kidneys weighed 245 grams and were frankly negative except that on the surface of each kidney and extending in for a very short distance there was a small old infarct. The source of the infarcts I could not find.

Dr. Cabot: There were some in the kidneys and one in the spleen, and this lesion in the brain might have been the same?

Dr. Richardson: It might have been.

The bladder, pelves, ureters, prostate and seminal vesicles were negative. There was an undescended left testicle.

Dr. Cabot: Was there any evidence of syphilis anywhere in the body?

Dr. Richardson: None that I saw.

Dr. Cabot: Should a hyperplastic bone marrow be brown? I thought it should be red.

Dr. Richardson: It usually is redder than this was.

Dr. Cabot: But microscopically it did not show anything except ordinary hyperplasia?

Dr. Richardson: No. It showed marked hyperplasia.

Dr. Cabot: We have had an extraordinary number of anemias here and at the Peter Bent Brigham Hospital this season—I have never seen anything like it—anemias that were not pernicious and were not the ordinary type of secondary anemia, and that in two cases were thought in the end to be bone marrow tumors of the hematopoietic system. In one case we have never so far as I know found the cause,—a case in which there was some evidence of benzol poisoning, but not enough to be convincing. I suppose it means that we now make a more careful study of anemias that in the old days would have been called pernicious anemia and nothing else. These cases were all easily distinguishable from pernicious anemia, but when we got beyond that it was difficult to say anything with certainty.

CASE 13202

AN OVERDUE SURGICAL CONDITION WITH RESULTING SERIOUS OPERATION AND COMPLICATIONS

Urological Department

An Irish-American laborer sixty-one years old entered August 19 from the Emergency Ward complaining of vomiting and loss of appetite of two days' duration.

For twenty-five years he had had what he called "pleurisy pains" in the flank to the right of the lumbar spine and in the right side. For many years he had had no acute attacks. For twenty years he had urinated two or three times at night. For perhaps a year he had at times had burning micturition.

For a week his urine had been very cloudy, and he had had frontal headache. For two or three days he had had rather marked urgency. Two days before admission his appetite began to fail. Within a few hours he vomited with some relief the meal just eaten. He had no pain.

His family history is not significant.

He gave a past history of malaria in boyhood, Neisser infection forty years ago, dyspnea on exertion for some years, influenza and pneumonia a year before the present illness. He had used alcohol rather heavily until the past year.

Clinical examination showed a wizened man looking at least seventy, rather poorly developed and nourished. Lips somewhat cyanotic.

Teeth false. Throat slightly injected. Very marked bronchovesicular breathing at the right apex. Heart sounds almost imperceptible. Apex impulse in the fifth space. No measurements recorded. No murmurs. Radials thickened and tortuous. Blood pressure 100/70. In the right flank and the right upper quadrant in the kidney region a mass could be felt about five fingerbreadths below the costal margin descending on respiration, not tender. Abdomen otherwise negative. Slight thickening of the lower pole of the left epididymis. Impulse on coughing felt in both inguinal regions. A mass descended through the length of the right canal on coughing. Rectal examination showed slight thickening and tenderness of the right

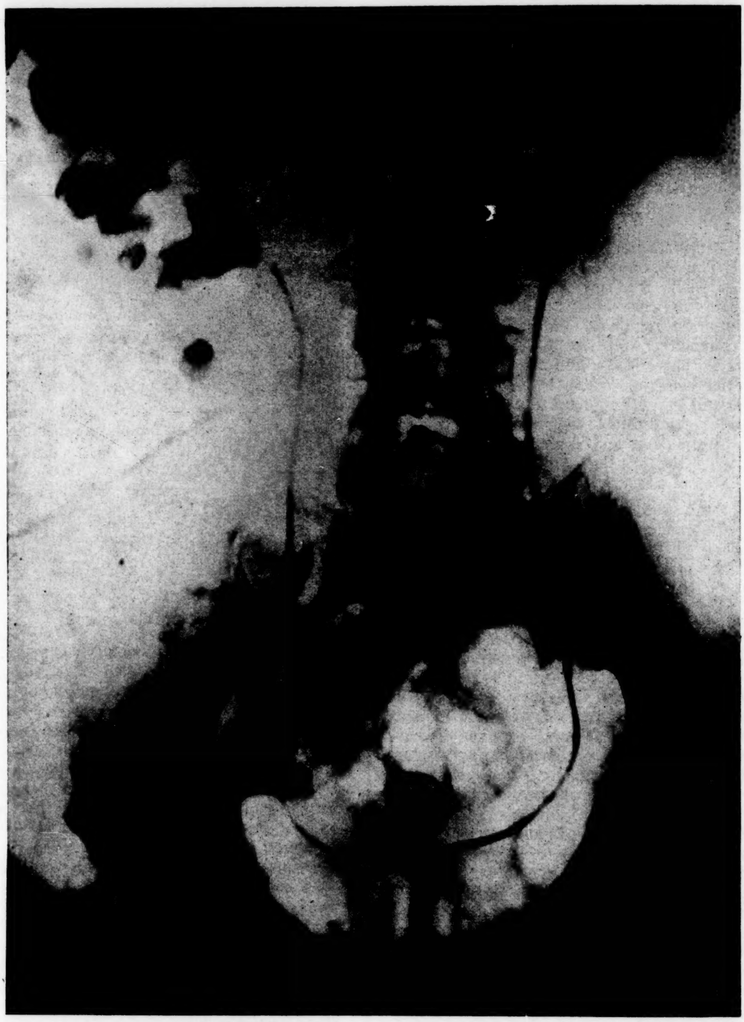

PLATE I. Taken August 20 before injection. Shows a large group of dense shadows which have the general appearance of kidney calices and extend from the eleventh rib to the crest of the right ilium. The kidney outlines are indistinct on both sides.

vesicle. Pupils normal. Cornea of the left eye showed an opacity, probably from an old ulcer. Knee-jerks barely obtained with reinforcement.

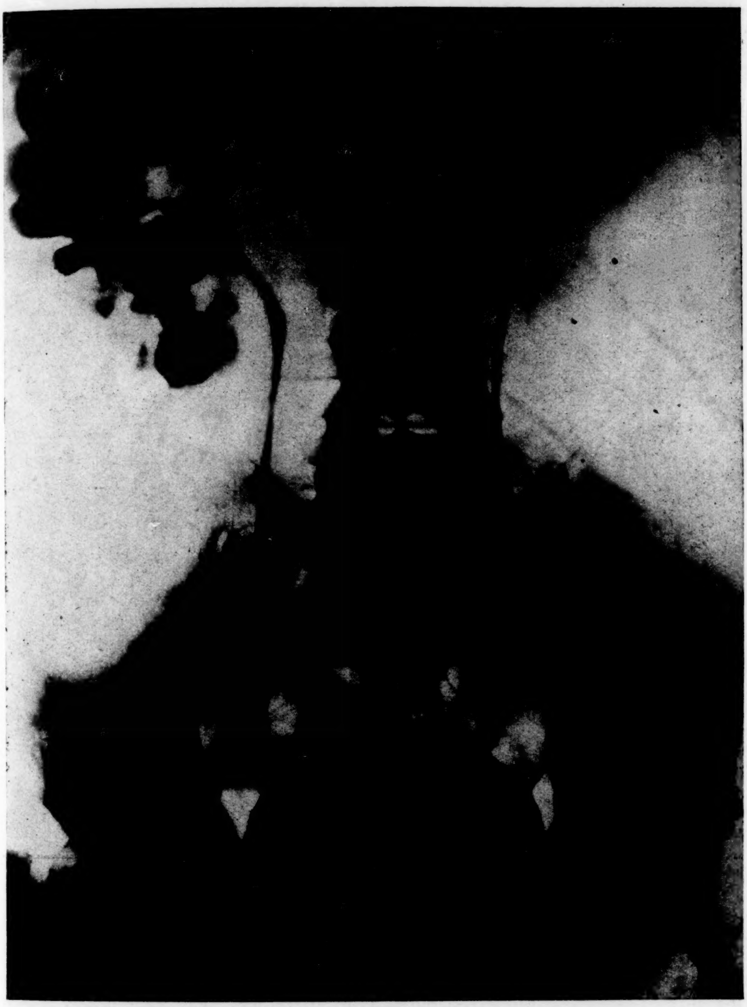

PLATE II. Pyelogram taken after cystoscopy August 20. Confirms the findings shown in Plate I. Only a small portion of the injected material entered the kidney pelvis. The bulk of it is in the bladder.

Before the first operation urine 43 to 100 ounces. The other urinary findings are given with the cystoscopy report. Blood not recorded.

X-ray (Plate I) showed a large group of dense shadows which had the general appearance of kidney calices and which extended from the 11th rib to the crest of the right ilium. The kidney outlines were indistinct on both sides.

August 20 cystoscopy was done and a right pyelogram taken. (Plate II.)

September 1 operation was done. The patient was in severe shock after it, with a blood pressure of 50/0. He was given intravenous glucose with buffer solution* and insulin. Six hours after the operation he was induced to void, and passed two ounces of what appeared to be thick cream colored pus. Microscopic examination showed leucocytes. By September 4 he was doing well, and by September 5 had stopped vomiting. There was a little drainage from the wound. September 8 the diarrhea was clearing up with deodorized tincture of opium. The wound was still being irrigated with one per cent. mercurochrome and seemed in good condition. September 17 the patient had diarrhea, cough and vomiting and was steadily going downhill. Fluoroscopic examination showed the diaphragm unusually high on the right side, and its respiratory movement very slight. There was normal excursion of the left diaphragm. There was nothing in the lungs to account for the appearance of the right diaphragm. (Plate III.) September 19 there was marked tenderness at the right costal margin where the liver edge seemed to be felt a fingerbreadth below the margin. The sclerae were icteric. The wound was clean and shallow. September 21 it was probed and about three drams of foul yellow pus recovered.

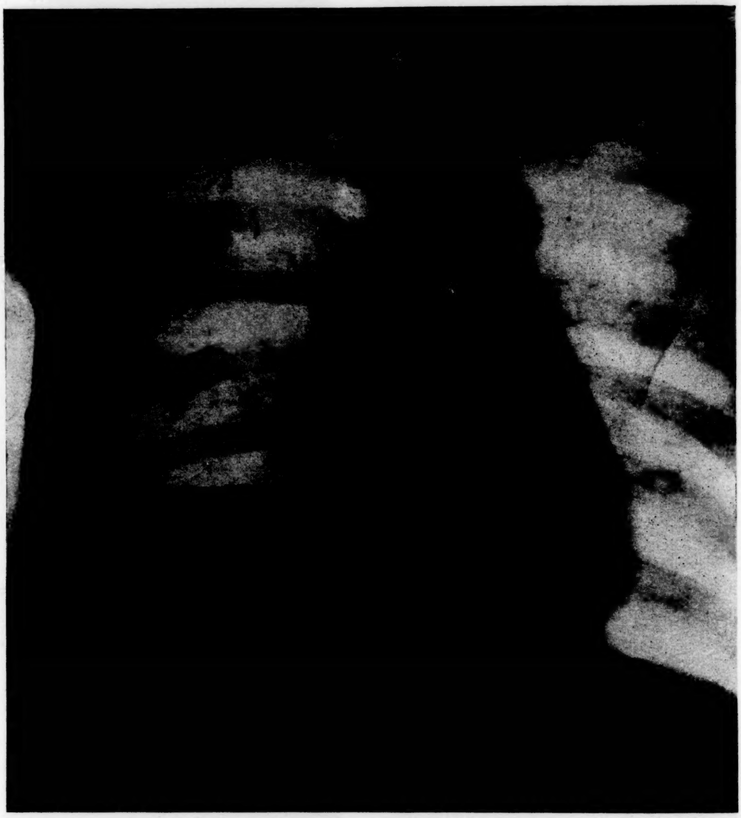

PLATE III. Taken September 17. The diaphragm is unusually high on the right side, and its respiratory movement very slight. There was nothing in the lungs to account for this appearance of the diaphragm.

September 21 a second operation was done. The patient made a good operative recovery except for some cough. He had an evening rise in temperature. September 26 the diarrhea was quieting. The wound was given Dakin's treatment. There was considerable drainage. The temperature came down. October 7 a portable chest plate showed the right diaphragm high and sharply domed, its outline distinct. The costophrenic sinus was not obliterated. October 14 the Dakin's tubes were out.

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*Buffer solution. A solution of acid sodium phosphate and sodium hydroxide used as a matter of routine with intravenous glucose to neutralize any acidity.

October 15 a third operation was done. The patient made uneventful progress after this. The wound cavity was irrigated twice a day with Dakin's solution. He again had cough and diarrhea. The cavity was four inches deep and contained 10 cubic centimeters. Drainage was slight. November 2 the second wound was stretched. The lower sinus was closed superficially. November 7 a tube was inserted two and a half inches and about half a dram of thick pus evacuated. The tube was left in place. Pus continued to drain. November 14 the tube came out. There was very little backing up. The tube was replaced in the lower sinus. The patient complained of griping abdominal pain November 9 X-ray examination showed decided improvement. The diaphragm was still slightly elevated on the right side and its respiratory movement somewhat limited. A barium enema was negative. November 15 a smear from the wound showed two or three cocci per high power field. Stool examination showed a positive guaiac. November 27 a small sinus was opened and considerable pus evacuated from the lower sinus. The following day the sinus was probed for about two inches. It seemed well drained, but it was not thought the bottom had been reached. November 29 he was discharged.

Records of the Out-Patient Department show five visits during the next seven weeks. At the latest report the wound was healed except for a small sinus at the inferior edge discharging a drop of pus.

Discussion

BY E. GRANVILLE CRABTREE, M.D.

From the clinical history one suspects an infectious condition of the right kidney following a longstanding condition of some kind. The attacks of pain in the past would fit very well with the stones shown in the X-ray plates. Whether or not influenza or pneumonia has been the incident by which infection was introduced into the calculous kidney is speculation, but it probably is the cause. His immediate symptoms are those of infection,—headache, burning micturition, urgency, failing appetite, vomiting.

From the physical examination we have the large mass in the right kidney as the outstanding feature. The man is in poor general condition as shown by his cyanosis, of poor nourishment, older than his years, and has a low blood pressure. His bilateral herniae constitute a side issue expressing nothing more than his neglect. Without counterindication, taking a pair of herniae into old age is bidding for trouble. The epididymitis is probably connected with the Neisser infection of forty years ago. This ought to be a burned out process, and probably is at this time. It probably played no part in the introduction of infection into the kidney.

PRELIMINARY DIAGNOSIS AUGUST 20

Calculous pyonephrosis.

CYSTOSCOPY

Cystoscopy was done for the purpose of doing a split function and a pyelogram. There was no function on the right. The right urine was pure pus. The appearance time on the left was eight minutes, the function 12½ per cent. The urine was loaded with red blood corpuscles.

PYELOGRAM

The films confirmed the previous findings. Only a small portion of the injected material entered the kidney pelvis. The bulk of it was in the bladder.

Further Discussion

Pure pus in itself is an indication of pyonephrosis.

If the function of 12½ per cent. means in dilution of 250 or 500 cubic centimeters as usual, it was below normal.

Miss Painter: It was 1/1000.

Dr. Crabtree: It would pass as slightly subnormal in 1/1000 dilution.

The cystoscopy is consistent with a pyonephrosis of the right kidney and a slightly deficient kidney on the left side.

We have then to rely on X-ray as our next bit of information.

Dr. Richard Dresser: It is very evident from this plate (Plate I) that we have a number of stones which almost form a cast of the kidney pelvis. We might think at first that the kidney had been injected. In Plate II the kidney has been injected.

Dr. Crabtree: It does not make much difference.

Dr. Dresser: Every now and then we do see a case where we get a very complete cast of the whole kidney pelvis from stones.

Dr. Crabtree: Then we supplement our diagnosis by making the diagnosis of calculous pyonephrosis. A pyelogram evidently followed the plain X-ray. There was no room in the kidney pelvis, on account of the stones, for much injection fluid.

The considerable lapse of time between the date of the cystoscopy and the date of operation was undoubtedly due to the fact that the man was in poor condition, vomiting, and to operate in that condition is almost certain destruction. Attempt to improve him undoubtedly was made in that period of time. There is only one operation to be considered in a condition of that kind, that is, nephrectomy.

PRE-OPERATIVE DIAGNOSIS SEPTEMBER 1

Renal calculi.
Calculous pyonephrosis.

FIRST OPERATION

Gas-ether. A large calculous pyonephrotic kidney firmly adherent to the posterior wall of the abdominal cavity was removed with considerable difficulty. The kidney was completely destroyed. A safe ligation of the pedicle was possible in sections. Rubber dam drain.

PATHOLOGICAL REPORT

A kidney 13x7x4 centimeters. The calices were dilated and the renal tissue atrophied to a thickness of less than a millimeter. A large number of stones accompanied the specimen.

Microscopic examination showed no tuberculosis.

Nephrolithiasis.
Hydronephrosis.
Chronic interstitial nephritis.

FURTHER DISCUSSION

In this rather succinct statement regarding the operation a good deal is expressed. The first point is that surgery is long overdue. This man has had years of kidney symptoms ending in infection. He comes to his surgical operation in very bad condition, requiring a lot of preparation for operation. The usual nephrectomy is an easy thing in surgery, but in this instance difficult because of the tremendous perirenal reaction and extrarenal changes which had taken place.

As I remember this operation the kidney seemed to be worn through on its posterior margin by the points of the stones. There was a dense mass of scar tissue adherent to the lumbar muscles of the back. One could not recognize structures, particularly the lower portion of the diaphragm. It was a question of palpating the vessels of the pedicle, clamping them by sense of touch alone, setting free and clamping the next vessel,—an extremely difficult operation on a patient in poor condition. In other words, he brought himself, through delay, to an extensive operation when he was in poor condition.

There was five days' postoperative vomiting. He soon developed a new condition of which Dr. Allen took charge.

DR. ARTHUR W. ALLEN: At the time I first saw this man he was greatly emaciated and in very bad condition. He had what was apparently a fairly clean nephrectomy wound. Palpation of this region showed very little induration, and there did not seem to be much evidence that his temperature, pulse, diarrhea, cough, and vomiting had much relation to this wound, that is primarily at any rate. He had a definite fullness over his right lower chest, marked tenderness on pressure in this region, and there was considerable clinical evidence that he had increased dullness above his liver. I believe an X-ray examination was made at that time which confirmed the suspicions. The man was icteric at the time, and a great many possibilities entered into the diagnosis.

DR. DRESSER: The first thing that strikes us in this plate (Plate III) is the very marked elevation of the right diaphragm, and we immediately thought of the possibility of some process beneath the diaphragm. There does not seem to be anything above to account for it. In these cases the fluoroscopic examination is of much more importance than the film. What we want to know is whether the diaphragm moves or not. If it is fixed we might assume that there is pus in direct contact beneath it. If there is some motion we cannot rule out pus absolutely, but it is probably further down. In this particular case there was some motion of the diaphragm, so we concluded that there was no pus in direct contact with it, but there might be some further down.

DR. CABOT: Could a diaphragm as high as that is on the right be normal?

DR. DRESSER: I should not think so.

DR. CABOT: It means something wrong, only you would not be sure so long as it moved that there was any pus close to it?

DR. ALLEN: With his icterus and with this X-ray examination this man might very well have had a liver abscess or a cholangitis or a subdiaphragmatic abscess. In spite of the fact that the diaphragm seemed to move under the fluoroscope we felt that a subdiaphragmatic abscess was perhaps the most logical diagnosis, because of the bulging that seemed to be present in the lower right chest. There was not any edema in this region, as we sometimes see in these cases. But a paracentesis above the diaphragm produced a straw colored fluid, a very common finding with pus below the diaphragm. Colon bacilli were grown from this fluid. Then on the operating table a needle was introduced above the twelfth rib and pus obtained.

PRE-OPERATIVE DIAGNOSIS SEPTEMBER 22

Subdiaphragmatic abscess.

SECOND OPERATION

Gas and oxygen. Ether. The old wound was explored. No pus was found. The twelfth rib was excised subperiosteally. The diaphragm was cut through and a large quantity of pus with foul colon-bacillus odor was evacuated. Two cigarette wicks were inserted.

BACTERIOLOGICAL REPORT

Culture from the old nephrectomy wound showed a slight growth of staphylococcus.

Further Discussion

Dr. Allen: This confirmed the diagnosis of subdiaphragmatic abscess. The twelfth rib was removed entirely, the region under it incised, and a large quantity of foul pus was obtained.

The man did very well for a while, gained materially, and aside from a slight backing up of the sinus necessitating a gas dilatation, which is the third operation spoken of, he make a comparatively satisfactory recovery. He was last seen I believe in the Out-Patient Department seven weeks after his discharge from the hospital, when his wound was practically healed.

PRE-OPERATIVE DIAGNOSIS OCTOBER 15

Subdiaphragmatic abscess.

THIRD OPERATION

Ethylene. A subdiaphragmatic sinus over the liver was dilated with the finger and was found to contain no residual pus. The kidney wound was found to contain some pus. This wound was enlarged. Cigarette drain to both wounds.

BACTERIOLOGICAL REPORTS

October 25. Wound smear. Six organisms per high power field, cocci and long rod-shaped bacilli.

October 25. Culture. Streptococcus hemolyticus and contaminating saprophytes.

November 15. Wound smear. Two or three cocci per high power field.

Further Discussion

Dr. Allen: An interesting feature about the case is that he developed a subdiaphragmatic abscess instead of developing a residual abscess in the region of his wound. Also the conjecture as to how the subdiaphragmatic abscess came about is of interest.

There are certain authorities who believe that subdiaphragmatic abscess comes through one of four channels: (1) through the portal stream, (2) through the hepatic stream, (3) through the lymphatics, or (4) through the bile ducts. It has been evident in some of these cases that a simpler explanation could be offered, that is the explanation of direct extension, and this seems to me to be one of those cases; although the other possible entries cannot necessarily be ruled out.

His icterus at the time of his subdiaphragmatic operation might indicate an original liver involvement. There is no question but that a certain number of these subdiaphragmatic abscesses follow liver abscesses. That is, liver abscesses develop first a fortunate location near the surface and break through the dome of the liver, producing subdiaphragmatic abscesses.

Dr. Dresser: I think we might account for the X-ray findings on the basis that the process did start in the liver and at that time there was some excursion of the diaphragm. It is a pretty safe rule to follow that unless we do have pus directly beneath the diaphragm we get some excursion.

Dr. Cabot: When you drained the cavity the pus was up under the diaphragm?

Dr. Allen: Very definitely.

Dr. Oscar Richardson: Did they take a blood culture?

Dr. Allen: Not to my knowledge.

Dr. Cabot: Do you think the chances of a liver abscess are good in this case?

Dr. Allen: I feel that this probably was a case of subphrenic abscess by direct extension, due to the proximity of the original wound to the edge of the liver, and the ease by which infection can travel in that region over the dome of the liver. The one feature against its being a direct extension is the icterus, and that would coincide perfectly with Dr. Dresser's idea of the liver abscess being a primary cause.

Dr. Cabot: Still we certainly get icterus with any focus of infection, don't we? A focus of sepsis anywhere in the body will produce icterus.

A Physician: What is the prognosis in this case?

Dr. Allen: The prognosis was grave even at the time of his second operation.

DIAGNOSIS

Calculous pyonephrosis.
Subdiaphragmatic abscess.

◆

MISSOURI WILL ACCEPT THE NATIONAL BOARD CERTIFICATE

At the recent session of the State Legislature of Missouri, an amendment to the medical practice act was passed, and this has met with the approval of the Governor. In addition to strengthening greatly the provisions of the law regulating medicine in this State, the amendment contains a provision which authorizes the Missouri State Board of Health to accept the certificate of the National Board of Medical Examiners in lieu of their own examination for medical licensure. Since this amendment was supported by the State Board of Health, candidates holding the National Board certificate will be able to secure licenses in Missouri without further examination as soon as the act becomes effective, which will occur within the next two or three months.

The addition of Missouri makes a total of 36 States now accepting the National Board certificate, besides the territories of Porto Rico, Hawaii and the Canal Zone. The other 35 States are as follows: Alabama, Arizona, Colorado, Connecticut, Delaware, Georgia, Idaho, Illinois, Iowa, Kentucky, Maine, Massachusetts, Maryland, Minnesota, Mississippi, Nebraska, Nevada, New Hampshire, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Utah, Vermont, Virginia, Washington and Wyoming.

Several additional States now have similar legislation before their Legislatures, which if successful will enable them to accept the National Board certificate.—*National Board Bulletin.*

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A NEGLECTED DIAGNOSTIC MEASURE

Immediate frozen section for a diagnosis of suspected malignant disease during the course of an operation is not being utilized in this vicinity as extensively as it might be. Whereas not so long ago the vast majority of cases of neoplastic diseases that came to the attention of the surgeon were in the advanced stages, where there was no difficulty in making the diagnosis and little probability of aiding the patient; at the present time, through widespread and concerted efforts of medical and welfare workers, the public at large are gradually becoming trained to bring to the physician, as soon as noted, lesions of a suspicious nature.

As these earlier lesions are brought to the attention of the surgeon the problem of diagnosis becomes more difficult, while the opportunity for aiding the patient is very greatly increased.

Since many of these earlier lesions can only be satisfactorily diagnosed through the microscopic examination of the tissue, and since therapeutic procedure depends entirely on the diagnosis, any practical means of rapid and sure diagnosis should be utilized to the utmost. This is particularly true where the nature of the growth will determine whether a local or a radical operation is necessary. Since in Boston with its numerous large hospitals and its medical schools there is no scarcity of trained pathologists, it would seem well worth while for surgeons to make use of the immediate frozen section in all operations where the nature of the lesion determines a local or a radical type of procedure.

The technique of making a frozen section, while not easy, is not unduly difficult, and the apparatus required is relatively simple. A fully equipped laboratory is not essential. With the type of portable microtone used by the majority of pathologists, a table and a source of light for the microscope are the only things that the smaller hospitals need to furnish. The ideal arrangement, of course, is one similar to that provided at the Palmer Memorial Hospital, where a small pathological laboratory, fully equipped for frozen section work, is situated directly between the two larger operating rooms. Since a small laboratory is thus included as an integral part of the operating suite, a great deal of time is saved to the surgeon, and also the period which a patient must be kept under the anesthetic is materially shortened.

BOARDS OF HEALTH AND TYPHOID FEVER

The Surgeon General of the United States has expressed concern with respect to the aftermath of the Montreal epidemic, because with the approach of warm weather more people will be travelling.

A foreman of a large milk pasteurizing plant was, according to the health authorities, responsible for the outbreak.

Approximately twenty-five hundred persons developed typhoid in this series, and it is reasonable to expect that there will be some carriers among those who have apparently recovered who may come into the States and seek work or perhaps only travel about. A carrier may start a series of cases as is well-known.

The vacation habit is quite generally adopted as a feature of modern life, and during the summer especially, people who are not versed in the rules governing the spread of disease are swarming over the byways. Some may convey disease.

Boards of Health have a very definite responsibility with respect to the regulations of camping places, and physicians who may have to attend sick people should be on the watch for indications of the existence of a communicable disease. Immunization of persons who may be susceptible to typhoid is in order for those who go to the country.

All possible means should be taken to instruct the people of possible dangers to those who are living under the hazards of the vacation period.

THIS WEEK'S ISSUE

Contains articles by the following authors:

Hawes, John B., 2nd., A.B.; M.D. Harvard Medical School 1903. President Boston Tuberculosis Association. His subject is: "Preventorium Problems." Page 803. Address: 11 Marlborough Street, Boston.

Blaisdell, Elton R., M.D. Bowdoin College Medical School 1915, Attending Physician Maine Eye and Ear Infirmary, Adjunct Physician Maine General Hospital, Portland, Maine. His subject is "Report of the Results of Treatment with Salt-free Diet in Thirty-five Cases of Arterial Hypertension." Page 808. Address: 769 Congress Street, Portland, Maine.

Stone, James S., A.M.; M.D. Harvard Medical School 1894. Surgeon to the Boston Children's Hospital, Instructor in Surgery Harvard Medical School. His subject is: "Some Lessons From the Tuberculosis Fight." Page 812. Address: 286 Marlboro Street, Boston.

Kiernan, Frank, A.B.; Executive Secretary Massachusetts Tuberculosis League. His subject is: "Report of the Executive Secretary." Page 814. Address: 1149 Little Building, Boston, Mass.

Johnson, Anna. Graduate of State Normal School, Lowell, Mass. Formerly Executive Secretary Lawrence Tuberculosis League, now Educational Secretary Massachusetts Tuberculosis League. Her subject is: "Report of the Educational Secretary." Page 818. Address: 1149 Little Building, Boston, Mass.

MISCELLANY

THE BULLETINS OF THE BOSTON HEALTH DEPARTMENT

These publications rank high in literature available for all interested in public health and medicine. These are carefully read by state and national health organizations. The articles are written by experts and present up-to-date knowledge with respect to matters of general concern.

At the present time all over the country apprehension is felt regarding rabies. In April, 1926, the Boston Health Department published a treatise on rabies which is a complete description of the disease with advice for its control. If the recommendations which are given in that volume had been followed we would not now feel concerned about this menace. Doctors, boards of health, and police departments ought to read this article.

In the April, 1927, *Bulletin* there is an article on "Sensitivity" which sets forth the causes of the very many reactions to the various pollens, foods and some other irritants. This article is of especial importance in explaining the mysteries of the reactions to food substances.

Each publication of the Department tabulates the results of the survey of milk in Boston, giving the per cent. of solids, fats and the number of bacteria in the milk sold by different dealers. It is interesting to note that the number of bacteria found in each c.c. of the samples vary from 9,000 to 370,000.

Some of the more important rules of hygiene, summary of the work of the Department for the month of March, the administration of toxin-anti-toxin, and other interesting data are recorded in the last issue. Get a copy and read it.

LEGISLATION SOUGHT TO REDUCE THE DANGER INCIDENT TO THE USE OF DENATURED ALCOHOL FOR BEVERAGE PURPOSES

The Assistant Secretary of the Treasury, Lincoln C. Andrews, has sought the coöperation of the American Medical Association and the National Association of Retail Druggists in a plan to secure legislation which would make it a crime to sell or use denatured or partly denatured alcohol for beverage purposes.

Mr. Andrews states that the attempt to cleanse denatured alcohol in order to make it suitable for alcoholic beverages is a failure to a certain extent. Synthetic liquors which have been built up on partly purified denatured alcohol are deleterious. This kind of alcohol is used to a considerable extent in the manufacture of brands of alcoholic compounds. It is often found in champagnes which according to labels purport to have been imported.

This matter came before Congress in the Goff bill but legislation was denied. Mr. Andrews recommends the introduction of a special bill at the next session of Congress because there exists a serious menace to health in the use of liquors in which partially purified denatured alcohol is an ingredient. He hopes that the subject will be studied and that assistance will be forthcoming when Congress is again in session.

PREVENTIVE MEDICINE

An advertisement appearing in the daily papers reads: "If young women want to keep their health and strength for the next thirty years of their lives, it is best to start in right now and take . . . ."

This so-called medicine is reported to contain seventeen per cent. of alcohol. Enough to establish an appetite for this drug. Many people feel well after taking a drink. Why not men as well as women? Perhaps this compound will be a favorite cocktail in afternoon tea.

EXCERPTS FROM CAMPAIGN NOTES OF THE AMERICAN SOCIETY FOR THE CONTROL OF CANCER

Dr. George A. Soper, Managing Director reports that the death rate from cancer as announced by the United States Census Bureau had, during the last year, moved from sixth to fourth place among the principal causes of death in the United States. It was now preceded only by heart disease, pneumonia, cerebral hemorrhage, and softening of the brain. The cancer death rate today is 91.9. Twenty-five years ago it was 63.0. These were official figures.

WORK OF THE PAST YEAR

International Symposium. The International Symposium held at Lake Mohonk, September 20-24, had been one of the most useful things the Society had ever done, for it not only gave a great deal of instruction to the general public but added to the standing of the Society as a leader in the eyes of the medical profession of this and other countries.

The large amount of publicity which had been given to the Symposium had been of great educational value to the general public. The reporters had demanded provision for sending out no less than 20,000 words a day over the wires.

The chief room for improvement in the Mohonk meeting lay in the support given by Americans. The gathering had been a distinguished one, but some surgeons and others had not come because they had no idea how important the occasion was going to be.

It might be advisable to hold a Pan-American meeting at Washington with the coöperation of the United States Government, and this could probably be brought about. The representatives from Central and South American would undoubtedly gain chiefly in the opportunities afforded for newspaper publicity. If any meeting were to take place, say within a year, it would be desirable to decide upon the matter at an early date, since it took a long time to make the preparations for a successful meeting.

Financial Campaign. The financial campaign was the second important event of the year to which the Managing Director called attention.

The total sum which had been contributed to date toward the million dollar endowment fund was $600,168.56. The success of the undertaking had been made possible through the devoted efforts of members of the Executive Committee and a number of prominent citizens of New York and other cities, who had not for the most part been connected with the Society or known to be interested in the control of cancer. Great interest had been attached to the conditional offer of Mr. Robert Fulton Cutting to give $250,000 if the Fund could be brought up to $750,000 by next October. It was of the utmost importance that this generous contribution should be made secure.

Application had been made to the Commonwealth Fund for a renewal of the grants which it had made toward the Society's running expenses but no decision had yet been reached in respect to this matter. Owing to the uncertainty in the amount of the endowment fund and consequently the interest to be received from that source, and because of some doubt attached to the possibility of obtaining money from philanthropic funds, it was not clear how much income the Society would have for the coming year. But it was believed that the budget passed by the Society at the annual meeting amounting to $59,004.62 was a conservative figure.

Field Campaigns. The third most important activity for the past year was the field work. In a pamphlet recently issued, called "The Field Campaigns of 1926-27," it had been shown that twenty-six states were actively engaged in intensive campaigns, each one of which was of more than ordinary interest. Particularly notable had been those of Illinois, Missouri and Maryland. The field campaigns in these and other states had some novel features. For example, there had been the traveling clinics in Maryland, the whirlwind speaking tours of Drs. Bloodgood and Fitz-Patrick in Illinois and the scheme of education and clinics in the state of Missouri.

Saunders Prize. The fourth notable undertaking of the past year was in connection with the Saunders prize offers. Two prizes of $50,000 each had been offered by William Lawrence Saunders of New York for the discovery of means for the prevention and cure of human cancer.

Mr. Saunders' idea had more sides to it than at first appeared. He believed that the interest of medical men and research workers, not less than that of the laity could be stimulated by a money reward. He thought it not at all unlikely that the outlook of medical men upon the cancer problem had become somewhat restricted and that it was desirable to consider the possibility of devising means for the prevention and cure of cancer from every imaginable standpoint.

The Society had consented to consider applicants for the awards and the prizes were to be given, if at all, on the recommendation of the Society and with the approval of the American Medical Association and the American College of Surgeons. Rules had been made to govern the contest.

Up to March 1, 1927, the total number of letters received by Mr. Saunders or the Society as a result of the newspaper announcements had been 1,139. Nothing of importance had, however, thus far been proposed.

RECOMMENDATIONS FOR WORK FOR THE COMING YEAR

In a special report dated November 27, 1926, which Dr. Soper had made to the Executive Committee, he had proposed a definite extension of the Society's program of the work which was being done.

A special committee had been appointed to confer with the Managing Director on the program, but it had not yet reported. Meanwhile the work done would be along the lines proposed. The principal features follow:

1. There was need of more active coöperation with health departments and other permanently established agencies in the health field.
2. Greater emphasis should be placed upon work for and by women.
3. Periodic examinations would bring to light cancers which had been neglected and precancerous conditions which could be corrected. They thus afforded opportunities for medical men to give sound advice. Periodic examinations made with an eye alert for cancer should be encouraged.
4. It would be desirable to do more work among and for family doctors. The family doctor was the key man in cancer control.
5. The plan of long continued campaigns against cancer should be thoroughly tried. Several states had attempted to establish permanent branches of the Society, but had not made them a success.
6. Additions to the Society's publications should be made. There should be issued:

(a) A good book for the medical profession.

(b) A small, well-written book to tell the doctor how examinations should be made for cancer and precancerous conditions and what he should do when he finds them.

(c) A suitable periodical should take the place of "Campaign Notes." "Campaign Notes" had probably seen its day. It should be supplanted by a more suitable and worthy periodical. Perhaps the name should be changed: the form should be altered. There should be issued a magazine which was really "the voice of the Society commenting on events of importance in the field of cancer control."

CORRESPONDENCE

HOLMES-SEMMELWEISS ONCE MORE

My attention has been called to a letter of Dr. J. F. Baldwin in your issue of January 27 regarding the priority of Holmes and Semmelweiss in proving the infectiousness of puerperal fever and outlining its prevention. Your reply in the same issue seems alike to Dr. Baldwin and me to lack emphasis on the part played by Holmes in this matter which he himself considered the crowning work of his life. Are you willing to reopen the subject to the following statement?

Holmes read his paper on the Contagiousness of Puerperal Fever before the Boston Society for Medical Improvement, and, at its request, published it in April, 1843, in the *New England Quarterly Journal of Medicine and Surgery*.

Semmelweiss' name in this connection first appears in print in the *Zeitschrift der K. K. Gesellschaft der Aertze zu Wien* in an editorial note of about two pages. He himself first published in 1861. There is no reason to believe that Semmelweiss either heard of or saw Holmes' paper.

Holmes was a general practitioner, and it was not personal experience which led him to study the subject. He made a careful search of the literature then available in Boston, marshalling and arranging his evidence in a way to carry conviction to the unprejudiced mind. His paper was published in a journal of small circulation which lived only a year, and an American journal at that.

Semmelweiss, on the other hand, spoke from personal experience in the Allgemeines Krankenhaus in Vienna, where for two years he had been attached to a maternity service, and in a medium of widely recognized standing.

Europe troubled itself very little about this country at that time, and was not more on the lookout for any good thing coming therefrom than was Nathaniel with regard to Nazareth. Only three years later, in Boston again, surgical anesthesia was born. A year later Simpson brought forward chloroform. His reputation gave it immediate vogue and a supremacy which I believe it still maintains in the world, although ether is the safer agent.

Sir James Mackenzie, in his "Future of Medicine," speaks of "Semmelweiss' great discovery." I wrote him of Holmes' priority and got a delightful reply fully acknowledging his oversight. In McNair Wilson's Life of Mackenzie[*] Semmelweiss is still to the fore and Holmes not mentioned.

It seems to me more than a mere matter of history. The service rendered by Holmes was too great to be overlooked or forgotten.

F. C. Shattuck.

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[*] "The Beloved Physician."

ARTICLES APPROVED BY THE COUNCIL ON PHARMACY AND CHEMISTRY

April 30, 1927.

Editor, Boston Medical and Surgical Journal:

In addition to the articles enumerated in our letter of March 28 the following have been accepted:

Abbott Laboratories
  Tablets Triturates Ephedrine Hydrochloride—Abbott, ½ grain.
  Capsules Ephedrine Hydrochloride—Abbott, ¾ grain.
  Ephedrine Hydrochloride Solution—Abbott, 3%.
Parke, Davis & Co.
  Glaseptic Ampoules Mercury Salicylate—P., D. & Co., 0.065 gm. (1 grain).
  Glaseptic Ampoules Mercury Salicylate—P., D. & Co., 0.13 gm. (2 grains).
  Glaseptic Ampoules Mercury Succinimide—P., D. & Co., 0.01 gm. (1/6 grain).
Sigurd E. Roll
  Viking Palatable Cod Liver Oil.
Swan-Myers Company
  Ephedrine Hydrochloride—Swan-Myers:
    Capsules Ephedrine Hydrochloride — Swan-Myers, 0.0324 gm. (½ grain).
United States Standard Products Company
  Rabies Vaccine—U. S. S. P. (Semple Method).

Yours truly,
W. A. Puckner, *Secretary*,
Council on Pharmacy and Chemistry.

LISTER CENTENARY CELEBRATIONS IN LONDON AND GLASGOW

(From Our Own Correspondent)

Before giving an account of the celebrations which took place in London and Glasgow, in honor of the birth of Lister, it may be well to give a brief history of his career.

Joseph Lister was born on April 5, 1827, at Upton, Essex, now a suburb of London, but at that time quite in the country. His father was a combination not often met with. He was a Quaker, a prosperous wine merchant, and a distinguished man of science. He discovered the principle on which the modern microscope is constructed, and for this was made a Fellow of the Royal Society. Joseph was educated at two Quaker schools, and as the older universities of Oxford and Cambridge were barred to him because he could not comply with the religious tests, at the age of 17 he became a student at the comparatively new University College of London, the center in the country of intellectual nonconformity.

Young Lister's bent was science. As a boy he was a botanist, and a lover of natural history. Probably he inherited this bent from his father, and it was certainly encouraged and fostered by his home life. He entered University College in 1844, took a degree as Bachelor of Arts in 1847 when 20 years of age, and became a medical student at the hospital attached to University College. In 1852, Lister graduated as Bachelor of Medicine of London University, and in the same year became a Fellow of the Royal College of Surgeons of England.

When pursuing his medical student career, Lister was greatly influenced by three of his teachers, who were indeed remarkable men. Professor Sharpey was one of these. He was probably the most distinguished physiologist of his day. Another was the equally able but extremely eccentric Wharton Jones, who summed up, as Professor Bulloch shows in the paper he read on Lister at the Royal Society of Medicine, all the knowledge on inflammation down to 1846, and himself gained the Astley Cooper Prize, in 1850, for his splendid essay on the pathology of inflammation. The third was the greatest surgeon of pre-Listerian times, when rapidity was almost a necessity of successful operation, Mr. Robert Liston. Many of his other teachers were leaders in science in various directions: Lindley the botanist, Thomas Graham the chemist, and George Viner Ellis the anatomist. His training was of the kind to equip him for his life's work.

It must always be remembered that Lister was first the man of science and then the surgeon. After he had graduated, his first appointment was that of house surgeon at University College Hospital. At that time Professor Syme of Edinburgh was a surgeon of world-wide fame, and the Scottish capital was then a Mecca for medical students and graduates. Lister was intrigued with Syme and with Professor Simpson, who had just discovered chloroform as an anesthetic, and decided to visit Edinburgh to see for himself what was going on there. He was so fascinated with Syme and his surgical work that he stayed to become a "dresser" in Syme's wards, and later was made house surgeon to the great operator.

In 1856 he married a daughter of Syme and settled in Edinburgh. Shortly after this event he was appointed assistant surgeon to the Royal Infirmary. During all this time, and before he came to Edinburgh, he was writing papers and pursuing researches. His first paper dealt with the contractile tissue of the iris; he was then 25 years of age. His second paper was concerned with the involuntary muscles of the skin. His third paper was on a similar subject; and then his interest in purely physiological matters waned, and after that his physiological researches were merely offshoots from that pathological study upon which his whole attention was concentrated

While assistant surgeon at Edinburgh Infirmary he began his researches on the coagulation of the blood, the early stages of inflammation, and on the distribution of pigment in the frog. At the early age of 33 he was elected Fellow of the Royal Society. In 1860 he was appointed Regius Professor of Surgery in the University of Glasgow, and so popular were his lectures with the students that they signed a "round robin" that he should be given a ward in the old Royal Infirmary, as the professorship did not carry that privilege. The Infirmary building was situated on a height, close to the Cathedral, in the oldest part of the city, and it faced the "old Necropolis," a vast city of the dead, which remains to this day one of the most awe-inspiring sights of Europe.

It is one of the most notorious and terrible facts in the history of medicine that at the time when Lister became qualified the condition of surgery in the hospitals was appalling. On account of the discovery of anesthesia major operations were greatly more common than before that era, and unfortunately, owing to the septic conditions prevailing in most hospitals, a major operation was a great risk. No matter how skilful the surgeon might be—and the surgeon of that period was quite as skilful as his confrere of the present time—the patient's wound was apt to putrefy, which almost invariably meant death. "Hospitalism" was regarded as an event which was always liable to happen and could not be prevented, and it must be considered philosophically. Wherever the sick and injured were gathered together, there too were liable to be pyemia, septicemia and erysipelas, and the suffering and mortality were terrifying and enormous. At one time it was thought to be something in the building itself which poisoned the atmosphere, defective drainage, miasma, and so on. Some of the hospital buildings certainly warranted such a view. The old infirmary at Glasgow, for instance, where Lister worked, was hemmed in by tall buildings, surrounded by slums into which the sun seldom entered. But it was found that new hospitals, constructed in accordance with the most modern plans, well constructed and ventilated, were as subject to these "visitations" as the old dark, gloomy buildings which they had replaced.

It did not seem to strike many that personal cleanliness, both of the patient and surgeon, might be a factor in bringing about septic conditions. The surgeon generally operated in an old coat, thickly covered with dirt, pus and blood. He might, or might not, perfunctorily wash his hands before he operated, and the instruments were fairly clean, as cleanliness was then understood; but surgeons and students alike were not conscious that they were to a considerable extent responsible for the woeful state of affairs.

It happened that whilst Lister was a house surgeon at University College Hospital, an epidemic of hospital gangrene occurred, which so affected him that he seems from that time to have resolved to devote his life to the solution of the problem of how "hospital fever" originated and spread, and to devise means for its prevention. It had been observed by many that the patient whose skin was unbroken remained unscathed; the fever attacked only those whose skin was abrased. Therefore it must come either from the air or from exhalations of the ground. However, excluding air from wounds made matters worse than better and things were at a desperate pass.

After Lister had been for some little time at Glasgow thinking always of one subject and in travail of spirit, endeavoring to find a way out of a seemingly dead alley, there were brought to him some papers on the subject of fermentation and putrefaction, which had just been sent from France. These papers gave the results of experiments made by a certain French chemist, by name Louis Pasteur. In these, Pasteur described in detail his investigations into the processes of fermentation and souring and putrefaction, and the deductions he drew from these commonplace happenings. In short, he had discovered the "world of the infinitely small," and it was germs from the outside which caused these chemical changes.

At once the idea illuminated Lister's mind, was it possible that germs acted upon the animal world as upon the vegetable, and produced in man suppuration of wounds? He made up his mind that at least he would attempt to answer his question, and determined to take such steps that in future, when he operated, if germs were apt to enter the wounds, they should be killed before they had done harm.

In May, 1866, he tried the effect of a paste of creosote, covered with tinfoil, upon a compound fracture of the leg, an accident, by the way, which frequently proved fatal in hospitals. Under this treatment the wound healed kindly, and there was a complete absence of any constitutional disturbance. This was the first antiseptic dressing ever used intentionally, and laid the foundation for all his future experiments. Carbolic acid was isolated from the crude creosote, and carbolic acid was the antiseptic agent used by Lister for some time, and the wound, after being freely laved with a solution of this substance, was covered with clean cotton wool.

From then on Lister gave up almost all his time to the task of improving on these two weapons against infection, and, of course, it is history now how well he succeeded. Some time in 1865 Lister made his first public announcement of his results, but it was in the *Lancet*, March 16, 1867, that he began a series of articles in which the antiseptic doctrines were promulgated far and wide. It may be added that his first article is republished in the Lister Centenary issue of the *Lancet*, April 9, 1927.

As is the case with the work of all pioneers, the discovery of Lister, instead of being hailed with joyous acclamation, was met with hostile opposition and indifference.

In 1869, Lister succeeded his father-in-law, Syme, in the chair of Clinical Surgery in the University of Edinburgh, and there continued his great work, developing the theory and practice of antisepsis and asepsis. He argued that strict cleanliness on the part of the surgeons, dressers, nurses and of all who came near the patient, as well as cleanliness of instruments, dressings, and of the patients' skin, was essential for the highest measure of success in dealing with wounds.

Although it is an oft told tale of how Lister's discovery was antagonized by his own people and accepted by foreigners, it is one which will bear repeating. In Edinburgh it is true that his views were generally acclaimed, at least by the younger men, while many of the older men stood aloof; but it was in Germany and France that they were received with enthusiasm. His wards in Edinburgh were visited by medical men and students of all nationalities, and this was the case during his first years at King's College Hospital.

In 1877, after much searching of spirit, Lister accepted the professorship of clinical surgery at King's College, London. He was doubtless impelled to this step by a sense of duty he felt he owed to his countrymen and fellow citizens, namely, to carry the light of truth to them and to point out to the hospital surgeons of his native city the road on which they should travel. In Edinburgh he was happy, he was respected and admired by his students (he had, perhaps, the largest class in the university), and the atmosphere of culture which permeated the modern Athens was congenial to his quiet and studious Quaker temperament. However, he came to London, and found that he had embarked on a troubled sea. The way of pioneer is hard, and a prophet has little honor in his own country. Lister found it so, and some of his time at King's College was spent not so much in teaching his methods as in defending them against hostile critics. After a few years practically all were converted, and in 1893 Lister retired from active work, having not only revolutionized the practice of surgery but being universally recognized as having done so, during his own lifetime. He was made president of the Royal Society, and died at a green old age, regarded throughout the world as the greatest benefactor to the human race the world has ever known.

In praising Lister, though, it should be borne in mind always that if it had not been for the work of Pasteur, Lister's discovery would not have been made. To the immortal Frenchman, the greatest man of all the ages, who did more for the salvation of mankind than anyone before him, and after him, is due the credit of turning Lister's thoughts in the right direction. Together, Pasteur and Lister wrought for the health of men a seeming miracle.

The celebrations of the Lister Centenary opened on Monday morning, April 4, by the reception by the King at Buckingham Palace of one hundred delegates who had come from all quarters of the globe to do reverence to the master. An address was presented to the King by Sir Ernest Rutherford, president of the Royal Society, to which the King replied, after which he conversed for a few minutes with the members of the delegation.

On the afternoon of April 4 the Listerian Society held a meeting at King's College Hospital, when addresses were given on the personality of Lister by members of the medical profession, some of whom had been his house surgeons.

At a reception given at the Royal Society of Medicine's Building, 1, Wimpole Street, by the president of the society, Sir James Berry, and Lady Berry, Sir St. Clair Thomson gave an address, the title of which was "A House Surgeon's Memories." He said in part that Lister was of pure English stock. No one from Scotland, Ireland or Wales can claim to see a Celtic fringe to the warp and woof of his nature. His people came from Yorkshire.

After tracing Lister's career in Glasgow and Edinburgh, the speaker went on to say that in 1877, exactly fifty years ago, Lister was invited to London. Why did he come south? It was not to hunt for honors or distinction; his Quaker character thought little of such adornments. It was not due to mercenary attraction; he was the possessor of a sufficient private fortune, and the commercial side of our profession had no attraction for him. In Edinburgh, Lister had many friends, his early days there, his Scottish wife, and his position in the university, all were powerful to retain him in the Athens of the North, and prevent him from migrating south. But although Edinburgh students were radiating from the north, imbued with his principles, and although wise men from afar came there and carried to distant lands tidings of great joy, yet still, and for many years afterwards, these principles were inadequately appreciated, were not generally admitted, and consequently their application was still imperfectly carried out. All who knew him were convinced that he accepted the invitation to London simply and solely because he felt that on the larger and more central stage of the metropolis he could so demonstrate his work that he would the sooner fulfill his mission and win the whole world to accept his principles. As his biographer records, "the antiseptic doctrine had been accepted in every part of the world that counted, except London, where alone it made but little way."

"When Lister came to London, bacteriology, as a science, was non-existent; the connection of fermentation and putrefaction with the healing of wounds was unknown or scouted, or even ridiculed; if a wound healed by 'first intention' it was looked on as an exception, and the rule was that suppuration was Nature's usual process of repair, and that pus might even be, as it was termed in these days, 'laudable.'"

"Of the four who accompanied Lister from Edinburgh to London, one, Dr. James Altham of Penrith, is dead. Of the surviving three, one is Dr. W. H. Dobie, who has long held a high position in Chester. The two others are with us this evening. One, a Highlander in blood and type, is Dr. John Stewart of Halifax, Nova Scotia. He is one of the most affectionate pupils of the master, whom he has drawn in many letters and pen pictures. The fourth had been Lister's last house surgeon in Edinburgh, and was his first in London. He is with us this evening; he is known to us all as Sir William Watson Cheyne, who succeeded his master as professor in King's College Hospital, became president of the Royal College of Surgeons, served his country on land in the Boer War, and at sea in the Great War, reached the rank of admiral, sat in the House of Commons as member of Parliament, and is now Lord Lieutenant of Orkney and Shetland. But perhaps his greatest work, and the one I imagine he looks back on with the keenest satisfaction, is his long and loyal service, in hospital and in private work, with the Messiah of Surgery, whom he served so faithfully as an apostle to the Gentiles.

"Not the least of the troubles which Lister met with in London was what John Stewart describes as the 'colossal apathy,' the monstrous inertia to the force of new ideas, the inconceivable indifference shown by the students and surgeons of London. Fifty years ago the wards of most of the hospitals in England reeked with the stench of putrefaction, just as they had done for centuries. But Lister's wards were free from what was everywhere accepted as the recognized 'hospital smell'; his dressings when taken off were free from pus and fetor; they were handed round for confirmation, and Sir St. Clair Thomson can well remember the surprised and approving sniff with which the visitor, generally a foreigner, confirmed Lister's frequent and pleased remark: 'You will notice, gentlemen, that any discharge is only serous and quite sweet.' Yet Londoners did not come to see his epoch-making change, to hear, to smell, and to be converted.

"In Edinburgh, Lister's class frequently numbered 400 students; in London, some ten or twenty might turn up, but these gradually fell off. Ten years after his arrival, Lister referred to his small classes at King's after his crowded audiences at Edinburgh as 'a humiliating experience.' Today, after fifty years, with new conditions and changed mentalities, it is perhaps as well, though somewhat difficult to explain this neglect." The speaker thought that the faulty method of teaching and examination had much to do with it. Lister's teaching did not help a man very much to pass an examination and secure a diploma. He was therefore neglected by the average student, while he cast a lifelong spell over those who, as dresser or house surgeon, came under the potent power of his personality. It is more difficult to suggest the reasons why London surgeons neglected or belittled his work. One was that the discoveries of Pasteur, on which Lister's conceptions of wound infection were based, were too recent, and too little known to be understood as the basis of his principles. Bacteriology had hardly come into existence fifty years ago. Another possible reason was that Lister had, by way of experiment, to try many things in his application of those principles to wound dressing. In these efforts he moved from carbolic lotion to boric, or made trials of corrosive sublimate, and then reverted to carbolic. Or he saturated his gauze with carbolic or iodoform or eucalyptus or double cyanide of mercury. These frequent changes were all causes for stumbling to the average individual who had not grasped the first principles, and was therefore doubtful of a so-called "system" which was not definite or final. Later in history these frequent modifications were counted to Lister for righteousness, for they demonstrated that it was the principle that mattered and not the methods of technic. Another reason was that the surgeons of the later Victorian period, just like Astley Cooper, Abernethy and John Hunter, were all in the dark as to how wounds became unhealthy.

As for the personality of this great man, Sir St. Clair Thomson describes him as tall, upright, well knit, stoutly built, deep chested; his bearing was dignified, and his manner always serious, restrained, courteous and considerate. He had a profusion of thick, iron-grey hair, worn somewhat long, as had been the fashion in his youth. Except for small side-whiskers, he was clean-shaven. He was never seen in any other pattern of collar or necktie than those seen in all his portraits, a black silk bow tie, and an upright collar with the peaks turned down over it. His costume never varied; he always wore a frock coat made of the shiny black material called broadcloth, and nowadays seen only on undertakers and country hotel waiters. His voice was low and musical; there was little resonance or ring in it, and it had rather an attractive hollowness about it, what a laryngologist would call a voice of some "phonative waste," due to want of tension in his vocal cords. This tone, or want of tone, in his voice may have been connected with an occasional slight stammer. This trifling hesitation in his speech had persisted from childhood. It was very transitory and never embarrassing. Some thought that the extra effort and emphasis required in overcoming its occasional occurrence added a little charm to his speech, but he himself was very conscious of it, and referred to it as "a severe thorn in the flesh."

His manner was generally serious, but relieved by what Dr. John Stewart calls his "gentle manner and somewhat pensive smile." His manner had a certain aloofness about it. His lifelong disciple, Watson Cheyne, confesses that Lister always inspired him with a certain sense of awe. Thomson himself always felt that his soul was "like a star and dwelt apart," and that as Wordsworth said of Sir Isaac Newton, his face showed

"The marble index of a mind for ever
Voyaging through strange seas of thought, alone."

Yet he commanded not only veneration, respect and admiration, but a feeling of complete trust and devotion which could only be explained by the nobility and sincerity of his character.

On the morning of Tuesday, March 5, the delegates were received by the Prime Minister, Mr. Baldwin, in the hall of the British Medical Association in Tavistock Square. Sir Ernest Rutherford, president of the Royal Society, was in the chair. The Prime Minister said, in part, that "Today the boundaries of all the nations are broken down in this hall. It is only fifty years ago that Joseph Lister came to London to convert his own people. It was two years after that, before he obtained that recognition here which subsequently was lavished upon him, that at an international congress in Amsterdam he was greeted by his colleagues in his profession from all over Europe in words uttered by the chairman, which may well be recalled today: 'Professor Lister, it is not only our admiration which we offer you—it is our gratitude, and that of the nation to which we belong.'"

Professor Henri Hartmann of Paris, in his tribute to Lister, said that carbolic acid had been used before Lister's day in the treatment of wounds, but with poor results. The difference between previous processes and his was that Lister built up a method on a scientific basis. He had the immense merit of seeing the full advantage that could be obtained from the experiments of Pasteur in fermentation for the treatment of wounds.

Professor Dr. Max Ritter von Gruber, president of the Bavarian Academy of Science, Munich, and who knew Lister well some thirty years ago, said that the greatest successes in the domain of the prevention of diseases were the vaccination by Jenner, the extermination of puerperal fever by Semmelweis, and the antiseptic treatment of wounds by Lister. The speaker rightly referred with pride to the manner in which Lister's methods were taken up in Germany, and pointed out that German surgeons had a glorious share in his triumph.

Addresses by twenty-two delegates from foreign countries and sixty-two from British institutes were then presented to Mr. Baldwin.

On the afternoon of Tuesday, April 5, the president and council of the Royal College of Surgeons of England held the Lister birthday reception in the Hunterian Museum of the Royal College of Surgeons' Building in Lincoln Inn Field. The foreign delegates and leaders of the medical profession from the overseas Dominions and from Great Britain and Ireland were received by the president of the Royal College of Surgeons, Sir Berkeley Moynihan, and Lady Moynihan, and members of the council.

The Royal College of Surgeons' home is a treasure of surgical relics, and of course the Hunterian Museum is its chief glory. Some of the pictures on the walls are of great value, being the work of famous artists. In Room 1 of the museum the conservator and librarian had arranged a display of the manuscripts, documents and printed books contained in the Lister memorial cabinet. Among those priceless treasures were Lister's drawings of fungi, and on a screen were hung Listerian diagrams illustrating the earliest test tube experiments on bacteria recorded in his common place books.

On Tuesday evening, April 5, a dinner was given by the Merchant Taylors' Company, one of the London ancient city guilds, in their famous hall—perhaps the most beautiful of the many beautiful companies' halls in London—to the delegates assembled for the centenary celebrations. There was a brilliant throng present, comprising representatives of medicine and science from all parts of the civilized world, with a sprinkling of distinguished city men, statesmen and church dignitaries, conspicuous amongst those being the Bishop of Birmingham, Dr. Barnes, himself a well known man of science.

On Wednesday morning, April 6, a memorial service in commemoration of the centenary of Lord Lister's birth was held in Westminster Abbey. The commemoration address was given by the Bishop of Birmingham, who laid especial stress on the effect which his home life exerted upon his career, with its traditions of self-discipline and high endeavor, influences which made his character the worthy servant of his genius.

On the afternoon of Wednesday, Sir Ernest Rutherford, president of the Royal Society, occupied the chair at the Proceedings of the Royal Society of Medicine, when the great physiologist, Sir Charles Sherrington, paid a tribute to Lister as a physiologist. Professor William Bulloch, the well known bacteriologist, dealt with Lister from the bacteriological point of view, and Sir Berkeley Moynihan, the famous surgeon, discussed Lister as a surgeon.

Sir Charles Sherrington, after referring to Lister's contributions to physiology, made mention of the effect his discovery had had on experiments an animals. He pointed out that the man who engaged in experiments on animals felt more justified in doing so, and took that step with a clear conscience, because, largely owing to Lister, it could be taken without inflicting pain and suppuration.

Professor William Bulloch, speaking of Lister as a bacteriologist, said that he had known the great surgeon almost intimately for thirteen years. As bacteriologist of the British Institute of Preventive Medicine, he visited him every week, and he had no hesitation in describing him as *facile princeps medicorum.* He wished to be regarded as a scientist rather than a surgical craftsman. Almost at once he grasped the full significance of Pasteur's discoveries, and it was upon the basis of the germ theory that he founded the antiseptic treatment of wounds in surgery. It was a vulgar error to regard Lister as a mere imitator of Pasteur. Four years before he knew Pasteur he was getting extraordinarily near the truth of the nature of suppuration, and afterwards he advanced far beyond where the Frenchman had left him. He was one of the foremost pioneer bacteriologists of his time, but quite capable of admitting his mistakes, for he said that next to the publication of the truth, the best thing a man could do was publicly to recant his errors.

Sir Berkeley Moynihan, who is the orator of the profession in England, and who spoke eloquently without notes, said in part that Lister's discoveries had done for the craft of surgery what John Hunter had done for the science of surgery. On all occasions Lister expressed his admiration for the work of his great predecessor, John Hunter, and when he learned accidentally of the work of Pasteur, his mind was open to the new truth.

Referring to the conflict which had arisen between the followers of antisepsis and asepsis, it was realized now that the conflict between the protagonists of one and the other was both senseless and jejune. He (Sir Berkeley) recognized that if there were two methods, Lister's was the beginning of both. He would make a personal confession, and that was that in all his life he had never performed a single operation in which antiseptics were omitted. Asepsis was only the sensible practice of antiseptic surgery, that did not differ in ideals, but only in the method of their perfect accomplishment. He went on to point out that the most marvelous thing about Lister was that through him surgery became a great implement of research; how great was not realized today by surgeons or physiologists. Surgery was the most perfect instrument of research put into the hands of man, but unhappily the physiologist had gone astray: he did not walk, as he should, hand in hand with the surgeon. The craft of surgery was so immeasurably in advance of the science on which its progress depended that until it was caught up, surgery for a time must be stationary. Surgery had rewritten the text books of medicine concerning visceral disease, and it had put into the hands of all a method curiously neglected even to this hour of explaining most of the diseases which were still classed as medical. Surgery could hardly be made safer than it was today, but Lister's hypothesis, which governed the practice of surgery, had equally important relation to medicine.

Infection in medicine was responsible for a vast number of diseases much greater than appeared to be realized today, and in this connection little attention had been paid throughout the world to the work of William Hunter, twenty-five years ago. When we slandered our ancestors for their indifference to Lister let us remember that the same indifference was exercised by ourselves against one of our contemporaries. It was fortunate that once more the names of Hunter and Lister should stand side by side.

On Wednesday evening, at 9 o'clock, a conversazione was given at the Royal Society's rooms in Burlington Street.

On Thursday evening the Lister Centenary Exhibition at the Wellcome Historical Medical Museum, Wigmore Street, was opened at a reception. In the absence of Mr. Wellcome, the chief host, Sir W. Watson Cheyne, received the guests, and was supported by Sir St. Clair Thomson and by Dr. Archibald Young, Regius Professor of Surgery at the University of Glasgow.

Mr. Wellcome, the founder of the museum, deserves well of the admirers of Lister, and of the medical profession of the world, in that when the Lister ward in the old Infirmary of Glasgow was about to be demolished with the building he stepped in and saved it, and had it reconstructed and placed in the Wellcome Museum, together with many other relics of Lister. The collection is so arranged as to present an epitome of the various stages in the evolution of antiseptic surgery. Among the other articles pertaining to Lister are several portraits of the great surgeon, and of his colleagues, house surgeons, dressers and students, as well as numerous autograph letters and other documents of a personal nature.

Of those who spoke at the reception, Professor Young of Glasgow said that the story of Lister's brilliant researches and of their practical application was told in the best of all ways in that great historical exhibition, collected and dedicated to the memory of the master himself.

Lister's Centenary was celebrated at Glasgow on April 1. There was a commemoration service at the Cathedral attended by the clergy, corporation, academic representatives, and delegates. Sir Donald MacAlister, principal of the university, read the first lesson. A civic luncheon followed, and in a speech by Sir John Bland Sutton, such as he alone is able to make, he pointed out that the end of surgery had not yet been reached; the legitimate function of surgery was the repair of physical injuries. We must strive to cure morbid growths with drugs prepared by bio-chemists. "It may be believed," he went on to say, "that chemotherapy and physics, which have furnished surgeons with powerful and reliable remedies, will help to deliver mankind from some of the most distressing and unpromising operations of modern surgery." He insisted that there are clear signs of the dawn of such an era.

With regard to Lister, he gave it as his opinion that if Lister had had an apostle with the zeal of Saul of Tarsus, or a disciple with the eloquence of Huxley, the Listerian principles of wound treatment would have been universally accepted before 1900. In spite of this Lord Lister had the rare privilege of living to see his principles adopted by surgeons throughout the world.

NEWS ITEMS

TO FIGHT MENACING EPIDEMIC IN WAKE OF MISSISSIPPI FLOOD—"No man can exaggerate the seriousness of what is taking place in the great valley of the Mississippi," declared Henry M. Baker, National Director of Disaster Relief for the American Red Cross. "Our greatest menace is typhoid fever, and the next more grave problem will be measles, scarlet fever, and enteric disorders."

With quick realization of what the needs of the Red Cross would be in this dire emergency, the drug trade was among the first to respond to the national appeal for help, and typhoid serum, disinfectants, and other medical supplies were rushed forward to the flooded area.

DR. JAMES S. STONE THE GUEST OF THE ALABAMA STATE MEDICAL SOCIETY—Dr. J. S. Stone, President of the Massachusetts Medical Society, visited Alabama recently as the guest of the State Medical Society at its annual meeting. He delivered an address on the subject of "Some Lesions of Bones and Joints in Children."

DRS. T. H. LANMAN AND F. D. ADAMS HAVE CONDUCTED CLINICS AT TUSKEGEE—Dr. Thomas H. Lanman and Dr. F. D. Adams have returned from Tuskegee, Ala., where they have conducted clinics at the John A. Andrew Memorial Hospital in connection with Tuskegee Institute. Dr. Lanman lectured on the "Surgical Problems of Infancy and Childhood" and Dr. Adams on the "Chronic Gastro-intestinal Disorders of Children."

THE CONVICTION OF JOHN C. DEL PORO—John C. Del Poro, a student in the Boston College of Physicians and Surgeons, has been brought before the court on the complaint of Mr. Arthur Keating of the Department of Public Safety. Testimony went to show that he was practicing medicine without being registered, and also that he had in his possession a hypodermic syringe and needles. He was given a sentence of three months in jail on each count, making a total of six months.

MASSACHUSETTS HONORED — Dr. George H. Bigelow, Massachusetts Commissioner of Health, has received an appeal for trained public health workers to assist in caring for the conditions existing in the valley of the Mississippi River. Several persons have volunteered and there will undoubtedly be representatives of our public health workers who will supplement the efforts of the local and national officials.

THE ELECTION OF DR. BIRNIE AND OTHER BUSINESS TRANSACTED BY THE BOARD OF REGISTRATION IN MEDICINE—At the meeting of the Board of Registration in Medicine April 28, Dr. John M. Birnie of 14 Chestnut Street, Springfield, was elected chairman to fill the position made vacant through the death of Dr. Prior.

The subject of practical examination is under consideration before the Board for the purpose of perfecting this feature of the medical examinations.

Dr. William Robb, who was convicted of having performed an abortion but who is now out on parole, has applied for restoration of his registration, which the Board did not see fit to grant. He had served three years and eight months of a sentence of five to seven years.

Dr. Felix R. Newman of Worcester was given a continued hearing on complaint of the violation of the Federal prohibition law. This case was placed on file.

Dr. Alfred Leger appealed from the action of the Board taken last July, but no vote for reissue of his registration was forthcoming.

DR. WELCH HONORED—Dr. William H. Welch, professor of the history of medicine at the Johns Hopkins University, has been elected honorary president of the American Social Hygiene Association, according to *Science*. Dr. Welch succeeds in this office the late Charles W. Eliot.

DR. ABEL TO BE HONORED—Dr. J. J. Abel, professor of pharmacology at the Johns Hopkins University, will be presented with the William Gibbs medal at the second annual meeting of the Mid-West regional division of the American Chemical Society in Chicago on May 27 and 28.—*Science*.

DR. TOM A. WILLIAMS WILL GO ABROAD—Dr. Tom A. Williams will spend the summer in Florence, Italy, and will return to Miami late in the fall. He will spend the early part of June at the Royal Society's Club in London.

OXFORD SCHOOL OF PATHOLOGY—On March 11, we learn from *Science*, the Sir William Dunn School of Pathology at Oxford University, which has been three years building at a cost of £70,000, was handed over to the university by the Sir William Dunn trustees. The new building will be under the direction of Professor Georges Dreyer, professor of pathology at Oxford since 1907.

AMERICAN ASSOCIATION OF PATHOLOGISTS AND BACTERIOLOGISTS — Professor James W. Jobling, of the Columbia University College of Physicians and Surgeons, was elected president of the association at the recent meeting in Rochester.

DISEASE INCIDENCE IN CONNECTICUT

WEEK ENDING APRIL 30

DISEASE	1927 Week ending Apr.9	Week ending Apr.16	Week ending Apr.23	Week ending Apr.30	Average cases reported for week corresponding to April 30 for past seven years.	1926 Week ending April 10	Week ending Apr.17	Week ending Apr.24	Week ending May 1
Actinomycosis	-	-	-	-	-	-	-	-	-
Anthrax	-	-	1	-	-	-	-	-	-
Botulism	-	-	-	-	-	-	-	-	-
Cerebrospinal Men.	2	1	1	-	2	1	1	-	1
Chickenpox	80	44	44	78	49	35	44	36	44
Conjunctivitis Inf.	-	7	1	-	3	1	-	-	1
Diphtheria	35	21	31	26	43	17	12	13	19
Dysentery, Amoebic	-	-	-	-	-	-	-	-	-
Dysentery, Bacillary	-	-	-	-	-	-	-	-	2
Encephalitis, Epidemic	1	1	1	-	2	1	-	-	1
Favus	-	-	-	-	-	-	-	-	-
German Measles	17	10	11	17	10	14	17	21	10
Hookworm Infection	-	-	-	-	-	-	-	-	-
Influenza	7	6	1	3	9	157	48	269	20
Leprosy	-	-	-	-	-	-	-	-	-
Malaria	-	-	-	1	-	-	-	-	-
Measles	95	77	58	50	272	595	460	571	726
Mumps	30	28	38	53	51	16	7	11	6
Paratyphoid Fever	-	1	-	1	-	1	2	2	-
Pneumonia, Broncho*	32	33	38	26	45*	89	84	50	63
Pneumonia, Lobar	45	51	55	44	33	106	114	60	69
Poliomyelitis	-	-	-	1	-	-	-	1	-
Scarlet Fever	101	85	106	99	88	91	105	81	89
Septic Sore Throat	1	4	2	6	-	-	-	1	1
Smallpox	-	-	-	-	3	-	-	-	-
Tetanus	-	-	-	1	-	-	1	1	-
Trachoma	-	-	-	-	-	-	-	-	-
Trichinosis	-	-	-	-	-	-	-	-	-
Tuberculosis, Pul.	32	26	22	39	37	19	28	33	41
Tuberculosis, (o.f.)	4	5	2	7	3	-	2	8	7
Typhoid Fever	-	1	-	1	3	1	-	1	1
Typhus Fever	-	-	-	-	-	-	-	-	-
Whooping Cough	36	26	20	31	59	68	91	50	39
Gonorrhoea	33	3	47	8	18	31	8	9	5
Syphilis	25	10	32	14	35	41	7	8	9

*Average for two years. Made reportable January 1, 1925.

Remarks:
No cases of cholera, Asiatic, glanders, plague, rabies in humans and yellow fever during the past seven years.

MORBIDITY REPORT FOR THE WEEK ENDING APRIL 30, 1927

Diphtheria	26
Last week	31
Diphtheria bacilli carriers	5
Scarlet fever	99
Last week	106
Typhoid fever	1
Last week	0
Measles	50
Last week	58
Whooping cough	31
Last week	20
Bronchopneumonia	26
Chickenpox	78
German measles	17
Influenza	3
Malaria	1
Mumps	53
Ophthalmia neonatorum	1
Paratyphoid fever	1
Pneumonia, lobar	44
Poliomyelitis	1
Septic sore throat	6
Tetanus	1
Tuberculosis, pulmonary	39
Tuberculosis, other forms	7
Gonorrhea	8
Syphilis	14

NOTICES

TWO NUTRITION INSTITUTES

The County Medical Society of Aroostook County, Maine, have appointed a committee consisting of Dr. T. S. Dickinson, Dr. F. W. Mann, Dr. John G. Potter, to coöperate with Nutrition Clinics, Inc., of Boston, to put on two Nutrition Institutes, one to be held at Caribou, beginning May 9th, and the other at Houlton on the 16th.

The aim of these institutes is to give instruction in health diagnosis to physicians, nurses, teachers in the public schools, and others in the community who have to do with the welfare of children, the object being to give every boy and girl in the county an opportunity for better health.

A Nutrition Institute has just been held at Buffalo, New York, with a registration of 132. It was conducted with the coöperation of the Department of Health, Board of Education, Parochial Schools, University of Buffalo, and other health and social organizations.

Dr. Frances M. Hollingshead was chairman of the committee in charge.

On June 20th, the Wisconsin State Board of Health and the Milwaukee Visiting Nursing Association will begin another institute under the auspices of Nutrition Clinics, Inc., at Milwaukee. Dr. C. A. Harper, State Health Officer, and Miss Cecelia A. Evans, Director of the State Bureau of Public Health Nursing, are directly in charge. This will be the forty-third institute given in various parts of the country by Nutrition Clinics.

UNITED STATES PUBLIC HEALTH SERVICE

Chronological List of Changes of Duties and Stations of Commissioned and Other Officers of the United States Public Health Service

April 27, 1927

Associate Sanitary Engineer A. L. Dopmeyer—Relieved from duty at St. Louis, Mo., and directed to ceed to Memphis, Tenn., and establish headquarters at that place—March 30, 1927.

Surgeon G. A. Kempf—Directed to proceed from Washington, D. C., to Chicago, Ill., and return, to serve as a member of a board to be convened May 2—April 20, 1927.

Surgeon Friench Simpson — Directed to proceed from Mobile, Ala., to New Orleans, La., and return, to serve as chairman of a board to be convened May 2—April 20, 1927.

Pathologist William C. White—Directed to proceed from Washington, D. C., to Indianapolis, Ind., and return, to attend a meeting of the National Tuberculosis Association to be held May 23-26—April 20, 1927.

Special Consultant Walter M. Brunet—Directed to proceed from New York City to New Haven, Conn., Syracuse, N. Y., and Cleveland, Ohio, and return, in connection with venereal disease studies—April 20, 1927.

Senior Sanitary Engineer J. A. Leprince—Directed to proceed from Memphis, Tenn., to such places as may be necessary in Barnstable County, Mass., and return, in connection with studies of sanitary questions arising in that locality—April 21, 1927.

Sanitary Engineer R. E. Tarbett—Directed to proceed from Norfolk, Va., to Nashville, Tenn., April 23, and return, to conduct studies of the State Sanitary Regulations—April 21, 1927.

Assistant Surgeon General S. B. Grubbs—Directed to proceed from Washington, D. C., to Baltimore, Md., Marcus Hook, Pa., Rosebank, S. I., N. Y., and Ellis Island, N. Y., April 25, and return, for conferences relative to administrative matters in connection with quarantine and immigration activities at those stations—April 22, 1927.

Acting Assistant Surgeon M. D. Shie—Authorized to proceed from Cleveland, Ohio, to Washington, D. C., and return, to attend the meeting of the American Medical Association to be held May 16-20—April 22, 1927.

Senior Surgeon John McMullen—Directed to proceed from New Orleans, La., to Mempis, Tenn., and return to coöperate with State and local health authorities in connection with the prevention of the interstate spread of smallpox and other epidemic diseases in the flooded areas—April 23, 1927.

Surgeon L. L. Lumsden—Directed to proceed from Washington, D. C., to Chattanooga, Tenn., and to such other places in Tennessee, Alabama, Mississippi and Georgia as may be necessary, and return, in connection with rural sanitation studies—April 23, 1927.

Passed Assistant Surgeon Kenneth F. Maxcy—Bureau orders of April 19, 1927, directing him to proceed from Washington, D. C., to New Orleans, La., in connection with field investigations of typhus fever, revoked—April 23, 1927.

Acting Assistant Surgeon C. C. Applewhite—Directed to proceed from Jackson, Miss., to such places in the States of Tennessee, Kentucky, Missouri, Mississippi, Arkansas and Louisiana as may be necessary, and return, to coöperate with State and local health authorities in the prevention of the interstate spread of epidemic diseases in the flooded areas—April 23, 1927.

Acting Assistant Surgeon Elmer Glenn Wakefield—Directed to proceed from Washington, D. C., to Ellis Island, N. Y., and report to the chief medical officer for duty—April 23, 1927.

Chief Pharmacist B. E. Holsendorf—Directed to proceed from Rosebank, N. Y., to Newport News, Va., May 15, and return, in connection with quarantine matters—April 23, 1927.

BOARDS CONVENED

Boards of officers convened to meet at the following named places May 2, 1927, for the purpose of examining candidates to determine their eligibility for commission in the Regular Corps of the Service—April 20, 1927:

Detail for the board, Washington, D. C.: Surgeon J. P. Leake, chairman; Surgeon Lawrence Kolb, member; Surgeon R. C. Williams, recorder.

Detail for the board, San Francisco, Calif.: Senior Surgeon J. C. Perry, chairman; Surgeon J. R. Ridlon, member; Surgeon N. E. Wayson, recorder.

Detail for the board, Chicago, Ill.: Surgeon M. H. Foster, chairman; Surgeon G. A. Kempf, member; Surgeon M. S. Lombard, recorder.

Detail for the board, Stapleton, N. Y.: Senior Surgeon C. H. Lavinder, chairman; Surgeon Carroll Fox, member; Surgeon P. M. Stewart, recorder.

Detail for the board, New Orleans, La.: Surgeon Friench Simpson, chairman; Surgeon D. C. Turnipseed, member; Surgeon K. E. Miller, recorder.

Official:

C. C. Pierce, *Acting Surgeon General.*

REPORTS AND NOTICES OF MEETINGS

A CONFERENCE OF EPIDEMIOLOGISTS

A CONFERENCE of Epidemiologists was held at the Johns Hopkins University in Baltimore on May 12 and 13 under the auspices of the Rockefeller Foundation.

Dr. C. L. Scamman, Deputy Health Commissioner of Massachusetts, attended as a representative of the State Department of Public Health.

This is the first conference of its kind and was for the purpose of discussing the field of epidemiology, including administrative and scientific features of this phase of public health work.

The United States Public Health Service, the Rockefeller Foundation, state and city health organizations were represented.

Prominent among scientists present were: Dr. Milton J. Rosenau, Harvard School of Public Health; Dr. Haven Emerson, Columbia University; Dr. Hans Zinsser, Harvard University, Dr. C. E. A. Winslow, Yale University School of Medicine; and Dr. Charles V. Chapin, Superintendent of Health, Providence.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY

THE annual meeting was held on Wednesday, April 20, 1927, at the Colonial Club, 20 Quincy Street, Cambridge.

Business Meeting at 11 A. M.

The Annual Oration was delivered at 12 noon by Dr. Dwight O'Hara, Waltham. Subject: Heritage of Middlesex South.

Dinner was served at one o'clock.

The officers elected for the ensuing year are as follows:

President: Augustus W. Dudley, Cambridge.
Vice-President: Fresenius Van Nuys, Weston.
Secretary: Stephen M. Biddle, Cambridge.
Treasurer: Edward Mellus, Newton.
Commissioner of Trials: Edwin P. Stickney, Arlington.
Member of the Nominating Committee of the Massachusetts Medical Society: Edmund H. Stevens, Cambridge.
Alternate: Thomas M. Durrell, Somerville.
Censors: Herbert E. Buffum, Somerville; Charles F. K. Bean, Medford; Conrad Bell, Waltham; Norman M. Hunter, Hudson; Fred R. Jouett, Cambridge.
Orator: Walter B. Cannon, Cambridge.

COUNCILLORS

District No. 1, Cambridge: Edmund H. Stevens, James W. Sever, Willard A. Putnam, A. C. Potter, Hollis L. Seavey, John P. Nelligan, John H. Taylor.

District No. 2, Charlestown, Everett, Malden: Clarence H. Staples, Henry J. Keaney, Fritz Walter Gay, Ralph W. McAllester.

District No. 3, Medford, Somerville: Frederick G. Smith, Charles E. Mongan, Allen H. Blake, Walter T. Burke, H. E. Buffum, Thomas M. Durrell.

District No. 4, Arlington, Belmont, Concord, Lexington, Waltham, Watertown: Charles B. Fuller, Harold R. Webb, Henry Joel Wolcott, Fred A. Higginbotham.

District No. 5, Brighton, Newton: Edward A. Andrews, Francis G. Curtis, Lewis H. Jack, Irving J. Fisher, Edward Mellus, Walter H. Crosby, Hartley W. Thayer.

District No. 6, Ashland, Framingham, Holliston, Hopkinton, Natick, Sherborn: James Glass, Dana F. Cummings.

District No. 7, Hudson, Lincoln, Marlborough, Maynard, Stow, Sudbury, Wayland, Weston: Fresenius Van Nuys.

Auditors: Arthur N. Makechnie, Cambridge; Alvah C. Cummings, Newton; Josephine D. Kable, Marlborough.

Committee: Frank R. Stubbs, Newton; Charles F. Atwood, Arlington; Michael F. Burke, Natick; Arthur M. Jackson, Everett; C. T. Warner, Marlborough; C. M. Hutchinson, Cambridge; Edgar F. Sewall, Somerville.

Report of Edward Mellus, Treasurer, in account with Middlesex South District Medical Society, April, 1926—April, 1927.

Dr.	
To Cash on hand	$2,307.52
To Interest	67.44
To District Assessments	11.00
To Contributions	6.50
To Guest at Dinner	2.00
Reversion from Mass. Medical Society (497 advance payments)	614.53
	$3,008.99
Cr.	
By Annual Dinner	$ 279.75
By Luncheon	171.25
By Rent of Hall	12.00
By Printing and Postage	53.24
By Honorarium to Secretary	75.00
By Balance on hand	2,417.75
	$3,008.99

A MEETING OF THE BOSTON HEALTH LEAGUE

A MEETING of the Boston Health League was held in Room 500, 14 Beacon Street, Boston, on Wednesday afternoon, May 4, at 3:30 p. m.

Mr. Horace Morison, Acting Chairman of the Boston Health League, presided. After a brief report of the program of the League by Dr. Charles F. Wilinsky, Executive Secretary, Mr. Morison introduced as the speaker of the day, Dr. Richard M. Smith, Assistant Professor of Child Hygiene at the Harvard School of Public Health, who addressed the League on "The

Next Step in the Reduction of Infant Mortality."

At the beginning of his talk Dr. Smith expressed the desire of modifying his topics to "Steps in the Reduction of Infant Mortality," as there are so many factors in infant health that need to be considered which are just as important as the saving of life.

Dr. Smith stated that in planning the development of any work it is necessary to consider the past and the present, that in developing a program we should (1) carry on the work of proved value; (2) modify plans which have proved unsatisfactory; (3) branch out into new fields of endeavor.

Dr. Smith also pointed out that we are not so new in many of our ideas, the importance of many were recognized long ago.

Dr. Smith emphasized the importance of working with expectant mothers as (1) the death rate in children whose mothers die is far greater than those of healthy mothers; (2) there is an increase in births by decreasing the miscarriages and still births; (3) it saves maternal life; (4) because it provides an opportunity for the education of the mother in the care of her child.

Dr. Smith also pointed out the importance of breast feeding and the need of an adequate milk supply as most of the reduction in infant deaths is from the cutting down of diarrhoeal diseases. He also stated that whenever possible we should improve the actual care and hygiene of children and protect them, in so far as we are able, from exposure to disease.

As an example Dr. Smith stated that smallpox, a disease we rarely hear of now, was responsible for a tremendous number of deaths in children. In many countries children were not registered as born until they had small-pox and survived. He also stated that diphtheria was responsible for a great many deaths in infants in the past, but that any child that dies from diphtheria now dies unnecessarily.

"It would seem with our present knowledge that it ought to be possible to save the lives of many more babies and to maintain them in good condition, but practice always runs far behind knowledge," said Dr. Smith.

"Education is still a matter of prime importance. It is more than the giving out of facts We must see that these facts are thoroughly understood and put into practice. To do this we should increase our educational facilities and improve our methods of teaching."

Dr. Smith stated that we must educate parents, especially mothers, (1) to secure proper medical care for their babies; (2) to breast feed their babies; (3) to give them proper care; (4) to use every known means of preventing disease.

Dr. Smith also pointed out that more scientific medical knowledge is needed for the education of people as it is wiser to wait for the dissemination of information until we have sound facts. It would seem advisable, therefore, to try out and prove certain facts with reference to the prevention of deaths among the new-born and premature infants as well as to further study the different nutritional disturbances. He also stated that more knowledge is needed as to the prevention of disease, especially in regard to whooping cough, tuberculosis and syphilis. "In the prevention and treatment of tuberculosis it is not possible to apply the knowledge we have," said Dr. Smith. "Two out of every three children exposed to tuberculosis contract the disease." He also stated that tuberculosis in children is contracted from one of two sources, the cow or the human being, and this is controllable by the proper pasteurization of milk and the segregation of the adult with the disease.

Dr. Smith pointed out that syphilis is responsible for a great many deaths in children, and the way to prevent this is to treat the mother thoroughly in the early time of her pregnancy.

Dr. Smith also stated that to reduce infant deaths further it will be necessary to go into new fields and give increasing attention to matters of general hygiene. For instance special consideration should be given to the importance of sunlight and national and hereditary factors. The economic conditions of the family should also be considered.

Dr. Smith stressed the need of coöperation between the different health and welfare agencies to avoid working at this problem from different angles. Dr. Smith also stated that in the future, he believed, the family physician would be a very important factor in health education and pointed out the need of keeping our Public Health Departments free from political control.

Dr. Smith also spoke of the work being done by the hospitals in preventive work and home visiting and of the value of the public health nurse because she gets so close to the community in which she works.

"The next step, then, in the reduction of infant mortality will vary greatly according to the community in which work has been done," said Dr. Smith.

"We know certain things are essential for infant health. All the world must be brought to appreciate and apply these.

"New things must be discovered to save and maintain in good health many infants who die or suffer now.

"Coöperative organization must be perfected to bring to every child his right to be well-born and to live a healthy, happy life."

At the conclusion of Dr. Smith's address a lively discussion was held, led by Dr. Bigelow and Dr. Smith. The audience was invited to ask Dr. Smith any questions they might have.

ESSEX SOUTH DISTRICT MEDICAL SOCIETY

The Annual Meeting of the Essex South District Medical Society was held at The Tavern, Gloucester, Tuesday, May 10, 1927.

Dinner at 6:30 P. M.

Speaker: Mr. Arthur W. Gilbert of Belmont, Commissioner of Agriculture for the Commonwealth of Massachusetts. Subject: "Experiences in Europe with League of Nations." Illustrated with moving pictures. Mr. Gilbert was one of three Americans appointed by President Coolidge to attend the conference on The League of Nations. His intimate knowledge of such figures as Mussolini will prove most interesting.

Attendance 115.

Officers Elected For 1927-1928

President, Dr. E. B. Hallet, Gloucester.

Vice President, Dr. A. E. Parkhurst, Beverly.

Secretary, Dr. R. E. Stone, Beverly.

Treasurer, Dr. Andrew Nichols, 3rd, Danvers.

Librarian, Dr. C. M. Cobb, Lynn.

Commissioner of Trials, Dr. J. E. Simpson, Salem.

Censors: Dr. J. F. Jordan (Supervisor), Peabody; Dr. P. J. Finnegan, Salem; Dr. L. C. Swan, Beverly; Dr. C. L. Hoitt, Lynn; Dr. C. L. Curtis, Salem.

Councilors: Dr. J. Armand Bedard, Lynn; Dr. J. F. Jordan, Peabody; Dr. P. P. Johnson, Beverly; Dr. A. N. Sargent, Salem; Dr. J. W. Trask, Lynn; Dr. J. Frank Donaldson, Salem; Dr. C. H. Phillips, Beverly; Dr. W. G. Phippen, Salem; Dr. R. E. Stone, Beverly; Dr. W. T. Hopkins, Lynn; Dr. F. W. Baldwin, Danvers.

Executive Committee: Dr. Stewart Gardner, Salem; Dr. H. E. Whitaker, Gloucester; Dr. G. H. Kirkpatrick, Lynn; Dr. W. F. Hayes, Beverly; Dr. O. S. Pettingill, Middleton.

Nominating Councilor, Dr. C. H. Phillips, Beverly.

Alternate Nominating, Dr. W. T. Hopkins.

Submitted by the Nominating Committee, Dr. J. Frank Donaldson, Chairman; Dr. F. W. Baldwin, Dr. J. Armand Bedard, Dr. S. W. Mooring.

Wm. T. Hopkins, *Reporter.*

BRISTOL SOUTH DISTRICT MEDICAL SOCIETY

At the annual meeting of the Bristol South District Medical Society held May 5, the following officers were elected for the ensuing year: President, P. E. Truesdale; Vice-President, John G. Hathaway; Secretary and Treasurer, G. E. Borden; Commissioner of Trials, A. C. Lewis; Censors, S. V. Merritt (supervisor), D. D. Pratt, F. M. Howes (nominating), A. B. Cushman, W. A. Nield, E. D. Gardner (alternate), I. N. Tilden, R. B. Butler, S. E. Donovan, D. J. Fennelly and R. W. Jackson.

George E. Borden, *Secretary.*

BOOK REVIEWS

BOOKS RECEIVED FOR REVIEW

Lehrbuch der Speziellen Chirurgie. Berlin: Urban & Schwarzenberg. 816 pages.

Pneumoconiosis or Silicosis. By Henry K. Pancoast and Eugene P. Pendergrass. New York: Paul B. Hoeber, Inc. 186 pages. Price, $4.

The Medical Department of the United States Army During the World War. Volume VI — Sanitation. Washington: Government Printing Office. 1141 pages. Price, $3.25.

Practical Surgery of the Joseph Price Hospital. By James William Kennedy. Philadelphia: F. A. Davis Company. 861 pages. Price, $10.

History of the Mayo Clinic. Philadelphia and London: W. B. Saunders Company. 185 pages. Price, $3.50.

The Practice of Medicine. Second Edition. By A. A. Stevens. Philadelphia and London: W. B. Saunders Company. 1174 pages. Price, $7.50.

Principles and Practice of Oral Surgery. By S. L. Silverman. Philadelphia: P. Blakiston's Son & Co. 326 pages. Price, $6.

The Rockefeller Foundation Annual Report—1925. New York: The Rockefeller Foundation. 521 pages.

Clinical Application of Sunlight and Artificial Radiation. By Edgar Mayer. Baltimore: The Williams & Wilkins Company. 468 pages. Price, $10.

The Normal Child and How to Keep It Normal in Mind and Morals. By B. Sachs. New York: Paul B. Hoeber, Inc. 111 pages. Price, $1.50.

Physiology and Biochemistry in Modern Medicine. By J. J. R. Macleod. St. Louis: C. V. Mosby Company. 1054 pages. Price, $11.

An Introduction to the Practice of Preventive Medicine. By J. G. Fitzgerald. St. Louis: C. V. Mosby Company. 792 pages. Price, $7.50.

Shell Shock and Its Aftermath. By Norman Fenton. St. Louis: C. V. Mosby Company. 173 pages. Price, $3.

Diseases of Women. By Harry Sturgeon Crossen. St. Louis: C. V. Mosby Company. 1005 pages. Price, $11.

A Statistical Survey of Three Thousand Autopsies. By William Ophuls. Stanford University, Calif.: Stanford University Press. Price: Paper, $2.50; cloth, $3. 370 pages.

Artificial Rejuvenation and Voluntary Change of Sex. By Steinach—Translated by H. S. Penn. Lawrence: The Wood, Inc.

Infant Mortality and Its Causes. By Robert Morse Woodbury. Baltimore: Williams & Wilkins Company. 204 pages. Price, $3.50.

International Clinics. Volume IV—Thirty-sixth Series. Philadelphia: J. B. Lippincott. 308 pages.

Genius—Some Revaluations. By Arthur C. Jackson. New York: Greenberg. 160 pages. Price, $2.50.

The Significance of the Physical Constitution in Mental Disease. By F. S. Wertheimer. Baltimore: The Williams & Wilkins Company. 186 pages. Price, $2.50.

Self-Care for the Diabetic. By J. J. Congbeane. Oxford University Press. 90 pages. Price, $1.15.

The Treatment of Chronic Deafness. By George C. Cathcart. New York: Oxford University Press. 88 pages. Price, $1.35.

Chronic Rheumatic Diseases. By F. G. Thomas and R. G. Gordon. New York: Oxford University Press. 202 pages. Price, $2.75.

The Treatment of the Acute Abdomen. By Zachary Cope. New York: Oxford University Press. 238 pages. Price, $3.50.

Reports of the St. Andrew's (James Mackenzie) Institute for Clinical Research. Volume III. New York: Oxford University Press. 227 pages. Price, $3.

Annual Report of the Surgeon General of the Public Health Service of the United States—1926. Washington: Government Printing Office. 330 pages.

Report of the Department of Health of the City of Chicago for the Years 1923-24 and 25. Chicago: 842 pages.

The Life and Time of Adolf Kussmaul. By Theodore H. Bast. New York: Paul B. Hoeber. 129 pages. Price, $1.50.

Transfusion of Blood. By Henry M. Feinblatt. New York: Macmillan Company. 137 pages.

General Surgery. By Evarts A. Graham. Chicago: The Year Book Publishers. 726 pages. Price, $3.

Local Immunization. Baltimore: Williams & Wilkins Company. 181 pages. Price, $3.50.

Index of Transactions — American Gynecological Society. Philadelphia: Dorman. 161 pages.

Studies from the Rockefeller Institute. New York: The Rockefeller Institute for Medical Research. 637 pages.

High Blood Pressure: Its Variations and Control. By J. F. Halls Dally. New York: William Wood & Co. 196 pages. Price, $4.

The Specialties in General Practice. By Francis W. Palfrey. Philadelphia: W. B. Saunders 748 pages. Price, $6.50.

A Manual of Pharmacology. By Thorald Sollmann. Philadelphia: W. B. Saunders. 1184 pages. Price, $7.50.

Health Problem Sources. By Marion O. Lerrigo. New York: Bureau of Publication. 151 pages.

A Terminology of Disease. By Andrian V. S. Lambert. New York: Paul B. Hoeber. 158 pages. Price, $2.25.

The Conquest of Disease. By Thurman Rice. New York: Macmillan Company. 363 pages. Price, $4.50.

Actions and Uses of the Salicylates and Cinchophen in Medicine. By P. J. Hanzlik. Baltimore: Williams & Wilkins Company. 200 pages. Price, $3.50.

Symbionticism and the Origin of Species. By Ivan E. Wallin. Baltimore: Williams & Wilkins Company. 171 pages. Price, $3.

Surgical Clinics of North America—December, 1926. Philadelphia: W. B. Saunders. 1715 pages.

The Natural Processes of Healing in Pulmonary Tuberculosis. By Marc Jacquerod. New York: William Wood & Co. 107 pages. Price, $3.

The DeLamar Lectures—1925-26. Baltimore: Williams & Wilkins Company. 220 pages. Price, $5.

Symptom Diagnosis. By Wilfred M. Barton and Wallace M. Yater. New York: D. Appleton & Co. 851 pages.

South America. By Franklin H. Martin. New York: Fleming H. Revell Company. 435 pages.

Mother and Unborn Child. By Samuel Meaker. Baltimore: Williams & Wilkins Company. 209 pages. Price, $2.50.

Pathohistologie der Zahne. By Euler & Meyer. Munchen: Bergmann. 353 pages.

Reizbildung und Erregungsleitung im Wirbeltierherzen. By Haberlandt. Munchen: Bergmann. 175 pages.

Das Vorkommen der Kerislauf und der Stoffwedhul des Jods. By Fellenberg. Munchen: Bergmann. 363 pages.

Four Thousand Years of Pharmacy. By Charles L. LaWall. Philadelphia: J. B. Lippincott Company. 665 pages. Price, $5.

A Primer for Diabetic Patients. By Russell M. Wilder. Philadelphia: W. B. Saunders. 134 pages. Price, $1.50.

A Textbook of Bacteriology. By Hans Zinsser. New York: D. Appleton & Co. 1053 pages.

Immunity in Syphilis. By Alan Chesney. Baltimore: Williams & Wilkins. 85 pages. Price, $2.50.

This Business of Operations. By James Radley. Cincinnati: Digest Publishing Company. 96 pages.

Outlines of Common Skin Diseases. By T. Caspar Gilchrist. Baltimore: Williams & Wilkins Company. 51 pages. Price, $1.50.

The Tired Child. By Max Seham and Grete Seham. Philadelphia and London: J. B. Lippincott Company. 342 pages.

Applied Refraction. By Homer E. Smith. New York: William Wood & Co. 131 pages. Price, $2.75.

X-Ray Diagnosis. By J. Magnus Redding. New York: William Wood & Co. 228 pages. Price, $7.

The Medical, Social, Economic, Moral and Religious Aspects of Birth Control. By S. Adolphus Knopf. 66 pages. Price, 25 cents.

Transactions of the American Association of Genito-Urinary Surgeons. Volume XIX. Baltimore: Williams & Wilkins Company. 411 pages.

Early Days of the Presbyterian Hospital, New York. By D. Bryson Delavan. 191 pages. Price, $1.50.

Die Chirurgie. Berlin: Urban & Schwarzenberg. 1036 pages.

Diseases of the Intestines. By A. P. Cawadias. New York: William Wood & Co. 299 pages. Price, $6.

Modern Practice of Pediatrics. By William Palmer Lucas. New York: Macmillan Company. 962 pages.

Health Supervision and Medical Inspection of Schools. By Thomas D. Wood and Hugh G. Rowell. Philadelphia: W. B. Saunders. 637 pages. Price, $7.50.

Health Record for Children. By J. Theron Hunter. Baltimore: Williams & Wilkins Company. 52 pages.

Modern Medicine. Volume IV. Philadelphia: Lea & Febiger. 1011 pages. Price, $9.

Mineral Waters of the United States and American Spas. By William Edward Fitch. Philadelphia: Lea & Febiger. 799 pages. Price, $8.50.

Saving Eyesight After Mid-Life. By J. Herbert Waite. Cambridge: Harvard University Press. 48 pages.

The Elements of Hygiene and Public Health. By Charles Porter. New York: Oxford University Press. 425 pages. Price, $4.50.

Heliotherapy with Special Consideration of Surgical Tuberculosis. By A. Rollier. New York: Oxford University Press. 318 pages. Price, $6.25.

Applied Physiology. By Samson Wright. New York: Oxford University Press. 418 pages. Price, $4.50.

Principles of Physical Chemistry for Medical Students. By P. M. Tookey Kerridge. New York: Oxford University Press. 134 pages. Price, $1.75.

Index and Handbook of X-Ray Therapy. By Robert Lenk. New York: Oxford University Press. 121 pages. Price, $2.25.

The Psycho-Pathology of Tuberculosis. By D. D. MacLeod Munro. New York: Oxford University Press. 92 pages. Price, $1.75.

The Treatment of Chronic Arthritis and Rheumatism. By H. Warren Crowe. New York: Oxford University Press. 196 pages. Price, $2.75.

The Enlarged Prostate. By Kenneth M. Walker. New York: Oxford University Press. Price, $4.

Diseases of the Heart, Their Diagnosis, Prognosis, and Treatment by Modern Methods. By Frederick W. Price. New York: Oxford University Press. 534 pages. Price, $6.20.

Manual of Operative Surgery. By Holburt J. Warning. New York: Oxford University Press. 868 pages. Price, $5.25.

Manual of Medicine. By A. S. Woodwark. New York: Oxford University Press. 523 pages. Price, $4.75.

International Clinics. Volume I—37th Series. Philadelphia: J. B. Lippincott Company. 304 pages.